AMERICAN GAS ASSOCIATION MONTHLY

Vol. VIII No. 8

AUGUST, 1926

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By H. Koch, Jr.

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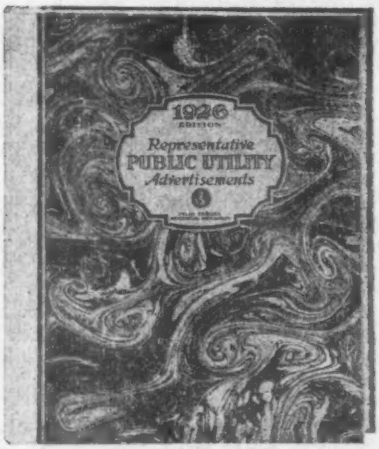
By D. L. Jacobson

Is Our Advertising Too Indirect?
By R. M. Searle

Five Hundred
PUBLIC UTILITY
Advertisements



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.....1926

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342 MADISON AVENUE
NEW YORK, N. Y.

Kindly send me.....copies of Advertising Portfolio at $5.25 a copy.

Name.....

Company.....

Address.....

AMERICAN GAS ASSOCIATION MONTHLY

342 MADISON AVENUE, NEW YORK, N. Y.

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SUBSCRIPTION RATE — *$3.00 PER YEAR*

For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.

Entered as Second Class Mail Matter at the Post Office at Brattleboro, Vermont, Februray 10th, 1922, under the Act of March 3, 1879.

Our Own Who's Who

XV

Walter R. Addicks

BORN, Philadelphia, Pa. Graduated from U. S. Naval Academy, Annapolis, Md., 1882. After several years in Navy, entered employ of Pennsylvania Railroad at Altoona, Pa. Began career in gas industry in 1887 as engineer of Beacon Construction Co., Boston, Mass. Then became chief engineer of six gas companies, all of Boston, Mass. Started and built gas company in Buffalo, N. Y. Later added to his activities that of consulting engineer of three gas companies in Boston, Mass. Joined Consolidated Gas Company of New York in 1903. Is now trustee and senior vice-president. Was acting president more than four years, at retirement of former president, Harrison E. Gawtry. Has been president of New England Association of Gas Engineers, Guild of Gas Managers, and American Gas Institute. Was chairman N. Y. State Joint Committee on Calorimetry, 1910-1913; chairman, committee having in charge preparation of National Gas Safety Code. Member and later vice-chairman, National Committee on Gas and Electric Service during World War. Member sub-committee on Coal Tar By-Products, Committee on Chemicals, Advisory Commission, Council of National Defense. Is active member of Naval and Army associations, and gas and electric associations.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. VIII AUGUST, 1926 No. 8

What Will Please the Gas Man's Fancy

Atlantic City's Million Dollar Pier to Be the Industry's Rendezvous the Week of October 11th

IN making the initial announcement of the Annual Convention of the American Gas Association, Secretary-Manager Alexander Forward states that the theme of the convention will be based on the recommendations made by the Three- to Five-Year Program Committee at the last conference of the Advisory Council and Executive Board.

Tying in with the thought "Progress" that prevailed at the 1925 Convention, this year's motif will deal with the specific treatment of the problems that the gas industry must face in the next few years.

Every care is being taken to insure the convenience of the members and their guests, to stimulate the interest of everyone present. The Program Committee is making every attempt to eliminate unnecessary detail and procedure from the entire program. This committee, the first ever appointed, consists of the following: Oscar H. Fogg, Bernard J. Mullaney, R. W. Gallagher, P. H. Gadsden, Alexander Forward, H. W. Hartman, and K. R. Boyes.

What is thought to be a noteworthy step in the abolishing of unnecessary detail is the announcement that no printed papers will be read at the General Sessions of the Convention. Every speaker from the rostrum will present new matter to the audience, and all printed papers and reports of the general committees of the Association will be distributed at the registration desk. The envelopes containing these reports and papers will be plainly marked with announcement that they will not be presented at the General Sessions. However, the chairman of each general committee will present a brief verbal report.

The Program Committee has also announced that the General Sessions, three in number, will occupy only two hours each. In this way the maximum attendance will be secured, as the program will be of sufficient interest and importance to hold the attention of everyone.

That the Program Committee has picked the most timely subject as a general theme is apparent on study of the recommendations made by the Three- to Five-Year Program Committee. Roughly, these recommendations were as follows:

1. Improvement of sales methods for the purpose of retaining and expanding the domestic load.
2. Proper rate structures.
3. Technical research.
4. Safety work.
5. Laboratory.
6. Industrial load, touching upon advertising, exhibit of appliances, and research.
7. National advertising.
8. Education.

The Seal of the 8th Annual Convention of the American Gas Association. These Will Be Supplied to Members on Request.

All of these objectives are to be presented on the program. Men well qualified to discuss the various and salient points have been selected.

The members of the Association who plan to attend will be interested to know that already most of the speakers have been chosen.

Dean Ralph E. Heilman, Northwestern University, School of Commerce, is to speak on the "Economic Advantages of the Gas Industry as Related to Its Competitors."

Edw. S. Jordan, President, Jordan Motor Company, has accepted an invitation to present "National Advertising for the Gas Industry and for the Manufacturers of Gas Appliances."

David Lawrence, Editor, *United States Daily,* and well-known political writer, will talk on views and service.

"Perfecting Service and Safety" will be the title of an addess by Geo. K. Burgess, director, Bureau of Standards.

Channing H Cox, First National Bank of Boston, and ex-governor of Massachusetts, will address the convention on "Commission Regulation and Its Influence on the Stability of Utility Securities."

C. S. Reed, Rate Consultant, A. G. A., will present "Building a Rate to Build the Business."

The Committee has approved the holding of an evening Symposium, as in the past. There will be but two speakers. Entertainment for the Symposium of a dignified character will be under the charge of the Entertainment Committee, which consists of W. J. Clark, Chairman; C. C. Atwood, Chester Grey, J. W. Heins, E. A. Norman, H. L. Whitelaw, and Thos. Schofield.

The entertainment features for the entire week have not been definitely arranged for, but there will be a Ladies' afternoon tea and concert, a Ladies' luncheon and card party, Ladies' golf contest, and tea, in addition to the President's reception and dance. Arrangements have been made with the Seaview Country Club, so that A. G. A. members and their guests will have special privileges. Harold Leonard and his Waldorf-Astoria Orchestra will furnish the music for the various functions of the week.

In making public this list of partial speakers and other announcements, the Program Committee purposes to show the membership that every effort is being made to put on the best gas convention ever held. The general theme of the business sessions is well chosen; the speakers are specialists in their particular fields and can talk with authority on the subjects assigned to them, and the meeting rooms in the Million Dollar Pier are large enough to accommodate a record-breading attendance. Reservations for accommodations should be made promptly by writing direct to Atlantic City hotels.

Industrial Gas Booklet

GAS, the Ideal Factory Fuel, is the title of the booklet sent by the Association to those manufacturers who, on seeing the industrial gas advertisements in the trade papers, write for further information.

The Association has had many requests to supply quantities of these booklets directly to the gas companies. A reprint has been made, and copies can now be furnished at ten cents each.

Orders should be sent to Association Headquarters.

Tell Them How—Show Them How

The Fall River Gas Works Company Used a Window Display to Demonstrate the Prone Pressure Method

By H. KOCH, JR.
Assistant Sales and Advertising Manager, Fall River Gas Works Co., Fall River, Mass.

RECENTLY, in Fall River, an episode occurred in which there was gratifying evidence that a life had been saved because of the knowledge one man had received in watching a demonstration of the Prone Pressure Method of Resuscitation by some local Boy Scouts in one of the show windows of the Fall River Gas Works Company.

On the 31st of May a local man found his sister lying on a bed in an unconscious condition in her mother's home. A wide open gas cock on a wall bracket, together with other contributing factors indicated that this was a wilful attempt at self-destruction. This man with the assistance of one of his neighbors began immediately to apply the Prone Pressure Method of Resuscitation and worked so effectively that when the police arrived with the inhalator she was breathing. The police applied the inhalator for about ten minutes with the result that she regained consciousness and was able to talk. She has recovered.

The gentleman stated afterwards that he had watched the safety demonstration given by the Boy Scouts in the gas company's window on the first of May and therefore knew how to start in. Undoubtedly, many more people who watched the demonstration have gained sufficient knowledge of the application of this method of resuscitation so that in an emergency they could apply it.

The purpose of this safety demonstration given in the gas office window was primarily to educate people as to the need, from the point of view of both health and safety, but primarily that of health, for keeping their windows open and having their homes well ventilated. On account of the cold weather, just passing, people were in the habit of keeping their windows down and evidence in several asphyxiation cases indicated that the results would have been less serious had there been more ventilation.

After working out an outline of the various points to be covered with appropriate signs and equipment, the Fall River Gas Works Company obtained, through the co-operation of William F. Hoffmeister, a local scout executive, the services of four Boy Scouts, who were coached, several days beforehand, in the methods of making the demonstration. Each demonstration lasted about 15 minutes and signs were used to describe what was being demonstrated. The two illustrations here illustrate several of the signs used. Some of the features

Left: Boy Scouts Demonstrating the Prone Pressure Method of Resuscitation in the Window of the Fall River Gas Works Company. Right: Some of the Signs Used.

brought out included the need for fresh air, the necessity for gas tight hose, the purpose of flues on water heaters, the value of safety connections to room heaters, and the need for making sure that gas is burning or that the valve is shut off before one turns away. A large working model of a gas safety cock was shown and operated by one of the boys.

Each demonstration closed with an exhibition of the Prone Pressure Method of Resuscitation with appropriate cards, which described the procedure, being turned as the boys went through the movements. Groups of people numbering about 25 gathered on the sidewalk to witness the demonstration so that each morning, afternoon and evening, several hundred people were reached. It was noticeable that practically all those who stopped, including men, women and children, stayed to witness the entire demonstration.

Several news items and photographs of the Boy Scouts were run in the local newspapers together with statements from the Chief of Police and the Secretary of the Chamber of Commerce. Part of the statement issued by Martin Feeney, Chief of Police, read as follows:

"The Prone Pressure Method of Resuscitation is one of the means now being applied by the local Police Department in emergency cases and the work of the Boy Scouts should be enlightening to many who see the demonstration."

Mention might be made here of the fact that the Fall River Gas Works Company presented an inhalator to the local Police Department just about a year ago. Since then every patrolman has been trained in applying the Prone Pressure Method of Resuscitation and the inhalator and a special man trained in the use of the inhalator is always ready for call in emergency cases. Since then, too, the Police Department has ordered about six more inhalators.

It is a noticeable fact that within the past year a large number of news items have appeared in newspapers from this community and elsewhere indicating that people overcome by gas of some nature have been quickly revived through the application of the Prone Pressure Method of Resuscitation in conjunction with the use of the inhalator. In most of these cases there have been no after effects. The Fall River Gas Works Company through safety work is doing what it can to increase the number of such items and decrease the number of reports of fatalities.

This one case mentioned above is very gratifying in that it indicates a direct beneficial result from safety work. That even one life should be saved more than repays the company for having exerted its sincerest efforts in carrying this message over to the public at large.

Gas, like very other useful force in the hands of man, must be handled with care, and public utilities cannot help but benefit through demonstrations of the safe use of its commodity in the home. It is one of the greatest lessons a public utility can teach its community.

As They Would Write "If You Do It With Heat, You Can Do It Better With Gas" in the Language It Obviously Is.

What Education Is Doing For the Industry

Helping the Gas Company Employee is One Way of Building Upon a Foundation of Bed Rock

By F. W. GOODENOUGH, C.B.E.
London, England

EDITOR'S NOTE

THIS most timely discussion on the importance of employee education is an abstract of a paper delivered by Mr. Goodenough at the Eighth Annual Conference of the Association for Education in Industry and Commerce held recently at Birmingham, England. Mr. Goodenough is known to American gas men as chairman of the Education Committee of the Institution of Gas Engineers, and executive chairman of the British Commercial Gas Association. He is chief sales superintendent of the Gas Light and Coke Company of London.

DOES the education of employees pay? That, put baldly, is the gist of many queries raised by many employers when they are pressed to give consideration and support to the education of their youthful and adult employees.

What will the firm, the shareholders, the partners, "get out" of it? Can anybody say, not merely as a matter of theory or belief, but from actual practical experience, that money spent on the education of employees is fruitful of profit, not only to the employee on whom it is spent, but also to the employer who spends it?

I am certain, beyond the possibility of a doubt, from my own actual experience and observation during these 20 years, and from the reports made to me by the administrative officers of the gas sales department, of the Gas Light and Coke Company, that money spent on properly devised and efficiently operated schemes for the education of employees is a sound and highly remunerative investment, not an "expense" at all, in the generally accepted sense of the word. Money spent on education does not increase costs; it reduces them. It profits him who gives and him who receives. It increases the earnings of the employee, because it increases his value to the employer. Let me be quite definite. It has in fact increased the earnings of employees because it has in fact increased their value. The Gas Light and Coke Company have increased the maximum rates of pay of certain classes of officers in their service, and the annual increments of pay whereby the maximum rates are reached, because they have found they are getting more valuable employees as the result of their improved education and training. They have been able to promote to staff positions of substantial present value and good future prospects a higher proportion of lads entering their service from elementary schools than they could find worthy of promotion before their educational schemes came into operation. They have been able to give much improved service to the community as the result of possessing a better average quality of employee; and they have consolidated their existing business, increased the rate of progress of their business, and improved the future prospects of their business, as a result of the better service they have been able to render by means of a better educated staff of officers and workmen.

There can be no doubt that the employer—whether individual, company, or corporation—who institutes or supports schemes of education for the workers gains in money, as well as in the improved harmony of operation, through having more intelligent people to deal with, and through having employees who take increased pride in the business, who have developed *esprit de corps*, and who

feel personal interest in the firm's good name, its progress and its prosperity through their increased knowledge and through their appreciation of what has been done for them in the field of education.

The worker is highly responsive to genuine efforts to aid him in his self-development and advancement, to practical evidence of good-will and co-operation, and especially, to the knowledge that he can earn promotion through merit, and in no other way. Justice is the quality in the employer that makes the strongest appeal to the employee.

An education scheme in connection with any business necessarily implies that in that business close attention is paid to merit, and I know of nothing more productive of profit to the employer than certainty in the minds of the employed that the road to promotion from bottom to top is open to all through merit and merit alone.

Education for vocation almost inevitably carries with it education for leisure, and it is of no small moment to the employer that the greater hours of leisure rightly available to-day for his employees should be productive of increased intelligence, of wider outlook and deeper thoughtfulness in the general body of his employees. Wider outlook and truer harmony also come from the meeting together of varying grades of employees for purposes of common study and instruction. Indeed, the "atmosphere" created by the institution of educational schemes supported and encouraged by the employer, and by the co-operation of differing ranks in their working—an atmosphere that is reflected in the increased happiness and goodwill of all ranks, and in the hopes for the future of themselves and their children that are aroused in the hearts of all—constitutes an asset of no mean order for the business, and, through the business and through the individuals employed, for the community as a whole.

Those are then, some of my reasons for believing that a few notes on the gas industry's educational scheme may be of some interest and value, especially bearing in mind the fact that it is a national scheme in actual operation, which was evolved and is being evolved as the result of practical testing and experience; and is an integral part of the educational system of the nation, into which it has been worked with immense practical and financial advantage due to the fact that it makes use of existing machinery and of existing expenditure.

At this point I should add that the results of which I have spoken as having accrued to the Gas Light and Coke Company have been secured as the fruit, not only of the industry's national scheme, but of a six years' apprenticeship scheme which was adopted by the company in 1909 and has formed the foundation of its educational work. To it has been added recently a staff pupil scheme, from which much good is expected. The moral is that those employers will benefit most from national schemes who study most closely the needs of their own works and their own employees.

I personally hold the view that the status of the salesman in general requires to be raised in almost every industry; and this, of course, implies the need for a higher standard of education among salesmen, the proper sequence being better qualifications, greater responsibilities, higher rewards.

In the gas industry in particular this view is the more inevitable, because of the way in which the industry's problems differ from those of other industries. In most other industries a successful sale of a good product closes the transaction; and it lies largely with the product by its quality to bring the repeat order, though of course advertising plays its part of the often necessary reminder. In the gas industry the good product has not only to be sold; much has to be done to ensure that it is properly used after sale. And the salesmen of the industry

(Continued on page 506)

The Stuff Utility Men Are Made Of

Two U. G. I. Men Break Up Bold Daylight Robbery In Which Policeman Is Killed and Another Wounded. $100,000 Saved

By CHARLES E. WETZEL
Managing Editor, U. G. I. Circle

THEY were helping to lay a gas main in northeast Philadelphia. A day or two before they had been at work on a similar job on Louden Street, two blocks away. A tool cart, left on this street, was the cause of the most exciting and hazardous day in the lives of two employees of the Philadelphia Gas Works—Howard T. Jayne, engineer in charge of the main-laying work; and Charles J. McCready, joint caulker—the cause of bringing these men into a position where, through their forgetfulness of self, they were able to assist in rendering a great service to the citizens of Philadelphia.

In the tool cart on Louden Street there was a grinder, which McCready needed in his work. Jayne, who had one of the company's light trucks on the job, volunteered to take him down to get the tool. The men were returning to the job when several highly excited persons were met running up Mascher Street, which crosses Louden at right angles. Unconsciously, Jayne turned the truck down Mascher Street toward the scene of the excitement and almost the next instant the two men found themselves in the midst of a fusillade of bullets.

A messenger of the Olney Bank and Trust Company, situated at Mascher

Charles J. McCready and Howard T. Jayne and Bullet-Riddled Truck Driven by Mr. Jayne, in Which a Policeman Was Shot to Death While Running Down Bank Bandits.

Street and Wyoming Avenue, had collected money from several associated banks for delivery to the Federal Reserve Bank. At 9:45 A.M. on May 4, he had collected approximately $80,000 and had stepped into the Olney Bank to get about $20,000 more. Accompanying him in a small automobile were Policeman Kaelin and the driver of the car. Suddenly, a large automobile drew alongside of the bank car and without warning, its occupants jumped out and opened fire point blank on the bank car. Policeman Kaelin was shot in the neck by a load of shot from a sawed-off shot gun. Seriously, but not fatally, wounded, he was too dazed to know what happened. The bandits then closed in on the bank machine, grabbed two satchels of money and started to make off. They had gone but a few yards when Policeman Pizzo, attracted to the scene from his beat nearby, appeared. Sizing up the situation at a glance, he took a haphazard shot at the bandit's car. Luckily, the bullet pierced the hood and severed an electrical connection, which stopped the car.

At this point, a druggist, not realizing what had taken place, endeavored to help the ruffians start their car. Almost simultaneously, Jayne and McCready, unarmed, of course, drove into their midst. Without hesitating, the robbers fired at them and proceeded to make a getaway on foot. One of them shouted, "Get the bags!" to which the druggist quickly responded—"I've got em," and away went the thugs, pell mell, supposing that it was one of their infamous number who had spoken. Alongside of a wicked looking "sawed-off" in the bandits' car, safely reposed the money satchels.

Jayne and McCready, pausing for a moment at the abandoned car, were handed the shot gun by the druggist. Armed with the shot gun, they started in pursuit. Less than a block away they overtook one bandit. He turned and fired at the U. G. I. truck. Armed with the shot gun, McCready sprang to the ground, and, ignoring his fire, ran toward the man. Covering him with the shot gun, right up to him went McCready. A brief struggle found the bandit minus his pistol and McCready sitting on him in the street. Jayne followed in the truck and McCready handed him the bandit's revolver. Jayne then started alone in pursuit of the others. Seeing them turn into a side street, he followed. Here he was accosted by Policeman Harry M. Cooper, who, off duty, had been amusing his infant on the porch of his home, nearby. Hearing the shots, Cooper had slipped on his gun and ammunition belt and started out to find what the trouble was. Jumping in the U. G. I. truck by Jayne's side, he ordered him to drive after the men.

Turning into Rising Sun Ave., they saw the bandits mount a milk wagon, throw the driver from his seat, and lash the horse. Both Jayne and Cooper began firing.

By this time, Policeman Pizzo had boarded a passing automobile and taken up the chase, as had several armed citizens in another car, both ahead of the U. G. I. truck.

Realizing that the speeding milk wagon was gaining on the two cars ahead of him, Jayne "stepped on it" and passing the two machines, gained rapidly on the wagon. By this time, the bandits had barricaded the rear end of the wagon with cases of milk bottles, from behind which they proceeded literally to rain bullets into the approaching U. G. I. truck—probably 100 bullets going through the truck.

Unable to see the men on the wagon and unable to make any impression on the breastworks of cases of bottles with their fire, Cooper and Jayne decided to pass the wagon and try to shoot the horse. As they were passing—about ten or fifteen feet away—a broadside from the thug's guns tore through the truck, and Policeman Cooper fell on Jayne's shoulder, shot through the left temple. Jayne, finding the bandit's pistol empty, grabbed Cooper's gun and returned the bandits' fire as he passed them. He then speeded up to

(Continued on page 468)

A Modification of the Dunkley and Leitch Method of Testing Activity of Oxides

By D. L. JACOBSON
Research Chemist, The Koppers Company, Pittsburgh, Pa.

IN the evaluation of oxides for gas purification some type of activity test is indispensable, and the method of Dunkley and Leitch* is now widely used for this purpose. As stated by the authors, their method aims to get a practically instantaneous value for oxide activity by determining the maximum rate at which an inert gas containing a low concentration of hydrogen sulphide can be passed through a unit weight of material with complete removal of hydrogen sulphide. The rate of flow is measured in terms of cubic feet of gas per hour.

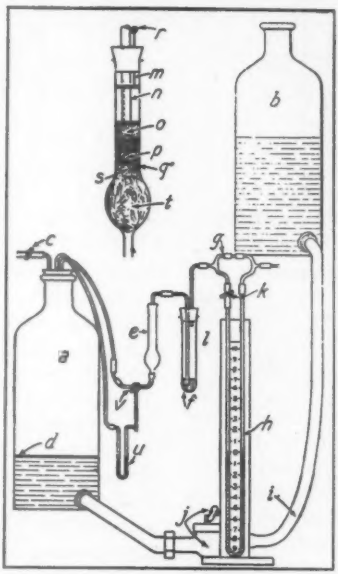


Fig. 1. Apparatus for Determining the Activity of Oxides

As used in the laboratories of the Koppers Company, the Dunkley and Leitch method is followed in its essential principles. Certain modifications have been made relative to the apparatus and to the preparation and supply of the gas mixture, ensuring a uniform and accurately controllable concentration of hydrogen sulphide. These modifications may be of interest to others employing the method.

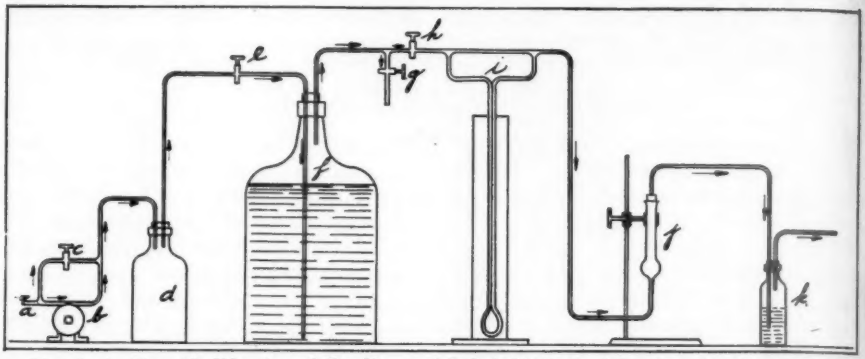
For the sake of completeness, the paragraphs in Technical Paper 332 on "Apparatus for Testing Activity" and "Testing Procedure" are reproduced here.

DUNKLEY AND LEITCH APPARATUS FOR TESTING ACTIVITY

"Figure 1 shows the arrangement of the apparatus described.

"Two 12-liter aspirator bottles, *a* and *b*, are connected by ¾-inch rubber tubing. In bottle *a*, a mixture of hydrogen sulphide and illuminating gas is stored over water on which floats a layer of paraffin oil, *d*, to keep the water from absorbing the hydrogen sulphide. The leveling bottle *b* sits on a high stand or is suspended by a cord over a pulley so that it can be raised or lowered to regulate the level of the water. The flow of water from *b* to *a* is controlled by the ¾-inch lever-handle iron cock *j*. The gas storage space in bottle *a* is connected with a mercury manometer, *u*, for indicating gas pressure in the bottle at any time. From *a* the gas mixture passes through the three-way cock *v*, through the side outlet of which any excess pressure in *a* can be relieved; thence the mixture passes to the oxide tube *e* and to the indicator tube *f*— a test tube 1 inch in diameter containing 10 cc. of a five per cent solution of lead acetate. The inlet tube dips into this solution about ½ inch. From the indicator tube the gas passes through the calibrated flow meter *g*, consisting of a short piece of capillary tubing with its ends connected to a water manometer tube, *h*, having a range of about 22 inches of water pressure. By means of the spring clamp *k* on the short piece of rubber tubing, the manometer can be shut off instantly and the reading held at any desired point."

*Technical Paper 332 Bureau of Mines—Conditions affecting the activity of iron oxides in removing hydrogen sulphide from city gas, by W. A. Dunkley and R. D. Leitch.



Sketch A—New Modification of Dunkley and Leitch Method of Testing Activity of Oxides

TESTING PROCEDURE

"The testing procedure with the apparatus is as follows: The bottle *a* is filled with water on the surface of which is a layer of paraffin oil. Illuminating gas, bubbled through a solution of alkaline pyrogallate (if necessary) to remove oxygen, is then passed into the bottle until it is nearly full. While bottle *a* is being filled, bottle *b* is lowered until the mercury manometer *u* shows atmospheric or slightly greater than atmospheric pressure in *a*. When the bottle *a* is nearly full of gas, a measured volume of pure H_2S is introduced from a gas burette; in practice the amount introduced will depend upon the concentration of gas to be purified. Experiments have shown that H_2S concentration affects oxide activity, but most oxides are affected similarly. After the gas mixture in bottle *a* has stood at least one-half hour to insure diffusion, the testing can be started. Oxide tube *e* is put in place. The operator opens the spring clamp *k* and holds it open with his right hand; then he opens the lever-handle cock *j* rather rapidly with his left hand while he carefully watches the indicator tube. As soon as there is the faintest indication of blackening in the lead acetate solution or of decolorizing, if permanganate solution is used, the spring clamp *k* is allowed to close, thus holding the water in the manometer at the instantaneous level corresponding to the rate of flow at the time when a trace of H_2S began to pass by the oxide tube."

In the method used by the Koppers Company Laboratories, a continuous current of inert gas containing a definite amount of hydrogen sulphide is generated. This avoids the expenditure of time required for allowing the H_2S to diffuse and ensures a uniform concentration of H_2S in the gas. The handling of concentrated H_2S and the manipulation with leveling bottles is also avoided.

APPARATUS AND SOLUTIONS USED IN NEW MODIFICATION

One type of apparatus for this purpose is shown in sketch A. An inert gas supply, for example, ordinary natural gas or coal gas, admits gas to blower *b*. This is a small motor-driven blower which can be secured from laboratory supply houses. The blower is provided with by-pass *c*. A safety bottle *d* is provided; *f* is the solution which generates H_2S—a 5-gallon bottle of the solution being a convenient size; *e*, *g* and *h* are large glass cocks or their equivalent; *i* is a flowmeter and *j* the tube containing the oxide sample; *k* is the indicating test tube with lead acetate or permanganate.

The solution in generator *f* is made up by dissolving suitable amounts of sodium carbonate, sodium bicarbonate and sodium sulphide, yielding a solution which has such a vapor pressure with respect to hydrogen sulphide that the gas passing through it picks up the desired amount of

hydrogen sulphide. For example, a solution containing 26 grams per liter of $NaHCO_3$, 13 g.p.l. Na_2CO_3, and 1.7 g.p.l. H_2S will yield a gas containing about 100 grains of H_2S per 100 cu.ft. Stronger solutions can be made by adding more sodium sulphide and using less Na_2CO_3; or sodium sulphide and sodium bicarbonate may be used, without any Na_2CO_3. By using suitable amounts, gas containing 300 or 400 grains H_2S or more can be made. It is also possible to add some strong acid such as sulphuric or hydrochloric to these mixtures when a gas high in H_2S is desired. By using five gallons of solutions, the H_2S content of the gas will remain constant for a number of tests, and when it drops appreciably, more $NaHCO_3$ and Na_2S or else acid can be added.

NEW METHOD OF OPERATION

The natural gas or coal gas may be passed through alkaline pyrogallate solution if necessary. The blower is set into operation and blows the gas through solution in *f* where it picks up H_2S, and with cock *h* closed and *g* open, out through *g*; *h* is then opened, and the back pressure should be sufficient to force gas out through *g*. Cock *g* is then closed and the gas passes through flowmeter *i*, the oxide tube, and indicating tube *k*. As cock *g* closes, the differential on flowmeter *i* rises rapidly, and the rate in cu. ft. per hour is recorded at which the indicator solution first shows a test for escaping hydrogen sulphide.

ALTERNATE METHOD OF GENERATING GAS CONTAINING A DEFINITE AMOUNT OF H_2S

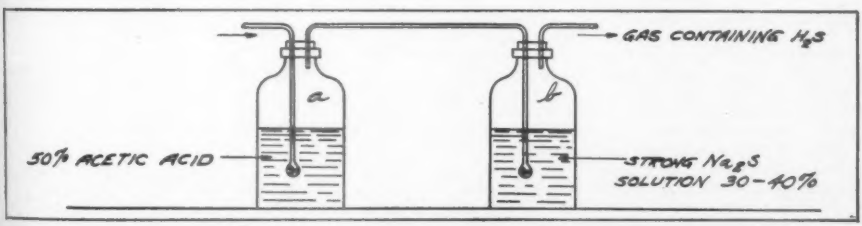
This method, which is due to H. A. Gollmar of the Koppers Company Laboratories, is illustrated in sketch B, and may be substituted for the solution in *f* of sodium carbonate, bicarbonate and sulphide given above. In bottle *a*, a strong acetic acid solution is placed. In bottle *b*, a strong sodium sulphide solution is placed, to which enough HCL or H_2SO_4 has been added to convert sodium sulphide to sodium hydrosulphide. The gas is passed through bottles *a* and *b* in series and leaves with the proper amount of H_2S, depending upon the strength of acetic acid, etc. For example, with 50 per cent acetic acid in bottle *a* and 30-40 per cent sodium sulphide solution in bottle *b*, the issuing gas contains about 500 grains H_2S per 100 cu.ft. By using the proper strength of acetic acid, gas containing up to 1200 grains H_2S can be obtained.

A. G. A. Speeches Prove Popular

THE speeches prepared by the American Gas Association for presentation at gatherings of local business, technical and social organizations are proving very popular, if the requests for additional copies of these talks on industrial gas can be taken as an accurate index.

More than 500 sets have already been distributed, and additional orders are being received every day. The Association can furnish limited sets of the speeches to all interested. There is no charge involved.

The speeches act as an efficient and easy means for gas men to get their story before local groups. They have been prepared so that any changes to conform with local conditions can be easily made.



Sketch B—Method of Generating Gas Containing H_2S

Further Indications of Plumber Help

THE 44th Annual Convention of the National Association of Master Plumbers of the United States in Louisville, Kentucky, on June 22nd unanimously adopted the report of its National Conference Committee which included the steps taken toward cooperation and mutual understanding between the plumbers and heating contractors on one hand and the American Gas Association on the other.

The report, which comprises the proceedings of the Conference Committee, held at Headquarters on May 3rd, includes formal approval of the Testing Laboratory by the plumbers. The report of the Convention in the Plumbers Trade Journal is as follows:

"Major Forward of the American Gas Association was asked to explain to the conference what standard equipment was and he gave a lengthy explanation of the tests that each piece of gas equipment was subjected to at the American Gas Association's laboratory at Cleveland, Ohio. At the present time, under date of May 5, 1926, the initial list of approved gas ranges is ready for distribution. Major Forward assured the conference that additional lists would be issued as fast as tests were completed.

"The following resolution was then offered by J. J. Shanahan (of the Norfolk-Virginia Association of Master Plumbers) and adopted by the conference:

" 'Resolved—That we recommend that the National Association of Master Plumbers approve and endorse the efforts of the American Gas Association through its gas appliance testing laboratory at Cleveland, Ohio, to improve the quality and safety of gas appliances. And to recommend the sale of such appliances as bear the association's seal of approval, and that the National Association of Master Plumbers call attention of its members to this undertaking, and urge them to keep fully informed as to what the progress of this work is.' "

Teaching Life Saving

ALL women employees of Westchester Lighting company are being taught the Schaefer prone pressure method for creating artificial respiration in cases of shock. These lessons are being given in the auditorium of the Westchester Lighting Company's building at 45 South Broadway, Yonkers, under the expert direction of Miss Ruth Paradise. The women are taken in classes of twelve and fifteen. About fifty girls were recently given a short instruction and a practical demonstration of this method of saving human life after the heart and lung action had been suspended.

Gas Stimulates Church Attendance

THE use of gas in the home is doing much to stimulate church attendance, according to Rev. Frederic C. Spurr, ex-president of the National Free Church Council, England. Saying that the preparation of the Sunday mid-day meal is a deterrent, Dr. Spurr suggests the use of gas ranges equipped with thermostatic heat control as a solution. These will cook the Sunday dinner in the cook's absence.

In making this suggestion, Dr. Spurr says he is not speaking wildly, but from actual experience. His family for a long period of time regularly entrusted the gas range to cook the Sunday dinner while they were at church.

"We returned to find the meat properly cooked and the vegetables nearly ready for serving," he says. "Many of my friends adopted the same practice, and, after all, in this mechanical age, it would be rather remarkable if we had not eliminated or reduced the human element in our cooking risks.

"Many gas ranges nowadays are equipped with thermostatic heat control. They have a numbered dial on the side and all the cook has to do is to set the dial to the key number for any given dish, and the range does the rest. The heat is automatically adjusted.

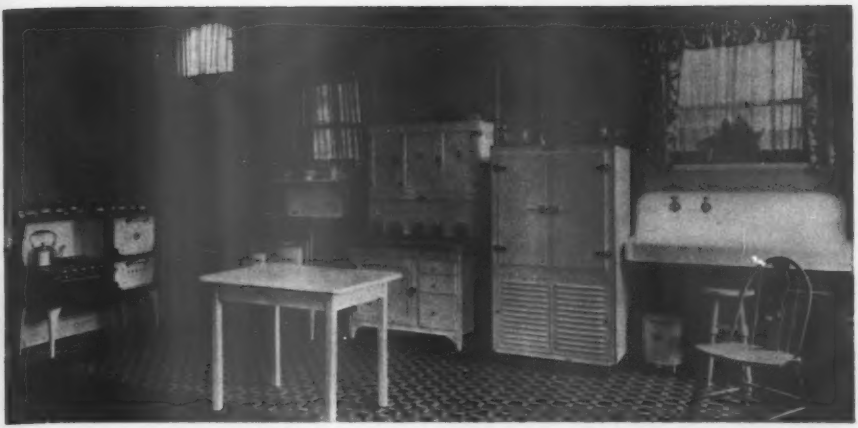
"Were it not for the Sunday dinner, we might easily restore the morning as an occasion when the father, the mother, and the children, might, as of old, attend service together. The well-meaning person who advocates a cold meal on Sunday is suggesting an act of sacrifice which is opposed to the national health and the welfare and contentment of the individual. Moreover, it is absolutely unnecessary in these days of modern cookery.

"The Church would do well if it recognized the 'sanctity' of the Sunday dinner and other established usages of the home."

The Modern Home, published by the Educational Extension Department, St. Louis League of Incorporated Building and Loan Associations, contains two interesting articles on the use of gas in the home in its June issue.

One of these articles featured plans for the arrangement of the modern kitchen and basement, while the other told of the advantages of sufficient gas outlets in the home.

Secretary A. Bliss McCrum, of the Public Utilities Association of West Virginia, announces his association will hold its 1926 annual convention in Charleston, W. Va., Friday and Saturday, October 1 and 2.



This Demonstration Platform Is a Pleasant Place

Home Service Has Its Duty

A Few Experiences That Show How One Department Functions as a Part of the Company Organization

By MARGARET H. BODKIN

Home Service Director, Kingston Gas & Electric Co., Kingston, N. Y.

THE Home Service Department of the Central Hudson System of Gas and Electric Companies has been operating in our three largest districts since March, 1925. Following examples set by older departments and theories worked out by those in close contact with the work, experimenting a little on our own, learning, growing, making mistakes and profiting by them, the three girls under our director at the central office have spent the sixteen months in hard, happy work.

During the time I was director of the work in the Poughkeepsie District, I had one experience I shall never forget. The Community Center, unique in that it was directed by a negro woman and served all races and creeds, having more white children than colored enrolled in classes, asked me to take over the cooking class of the six weeks' summer school. Those enrolled were from eight to sixteen years old. All lived at home and although the opportunity for them to cook was above normal, few of them had even boiled water. Fortunately, they could read the simple words in which the recipes were printed.

I started in bravely to teach them how to cook. Their interest and attention was inspiring. Seventy-five of the eighty enrolled tried at least one recipe at home. Whatever else they may have learned remains to be shown on the gas meter, but I know this—they will wash their hands before beginning to cook and they will use standard measurements.

The work in Kingston has been organized much the same as in other home service departments. There are classes for housewives, work with organized clubs and in the public schools. Besides these, I have had a business girls' and an employees' group, each meeting one night a week.

We have an attractive, pleasant, comfortable auditorium in which to hold these meetings. The photograph shown here tells you the arrangement of the platform and something of the room itself, but can you see the green and buff inlaid linoleum on the floor and platform, wax-finished dark walnut chairs, white-enamel

stoves, white and green cabinet, table, refrigerator and sink, the colorful bowls and pieces of crockery catching the sunlight as it comes in through the curtained and draped windows.

If the women come early, as they so often do, they read the current household magazines or the books in our home service Library.

The employees' class was made up of all the girls employed in our Kingston office. The class met Monday afternoon from five-thirty to eight. The first meeting was one of organization. A program of ten lessons was planned and it was decided that the girls would have their supper at the auditorium on these Monday nights. The menu for the following week was planned. Committees were appointed, one to do the marketing, two responsible for the food preparation which must be done during the noon hour, two more for the final preparations at five-thirty and two for the dish washing. With the exception of the whole meal demonstration, the girls paid for their suppers.

Arranging this class in this way had many advantages: First, the social hour of getting together offered seldom enough in most companies; second, the planning of menus which were well balanced, within the budget figure set by the girls, and which could be prepared partially during the noon hour and finished in a half hour in the evening; third, how much to buy for the number served and where to buy to the best advantage of quality and price; fourth, the actual preparation of food for a practical purpose. The responsibility of the supper for the entire group rested on the girls in charge. They couldn't fail.

Supper was usually over at six-thirty, which gave us an hour and a half for the lecture demonstration. These covered subjects selected by the girls—cakes, cookies, muffins, biscuits, candy, budgeting and whole meal cookery. This group, along with all the other classes, has suspended work for the summer but will begin again in September.

The business girls' class followed much the same routine as our housewives' and club classes, the work being planned to meet their specific needs, remembering that the majority of those enrolled had little experience in cooking.

As soon as it can be organized a regular radio broadcasting program from our local station WDBZ will go into effect.

Using Gas for Brass Melting

A Banker's View of Trade Associations

By O. H. CHENEY
Vice-President, American Exchange-Pacific National Bank, New York

BUSINESS ailments may have three general origins—that is, the troubles of the individual business man may come from three main sources. First, they may be due to bad general business conditions, such as a depression; second, they may be due to troubles peculiar to his line of business, and third, they may be due to his own individual inefficiency.

What can a business man do about these three sources of his troubles? Can he control them so as to minimize some of them or avoid them altogether?

For fifteen years I have been specializing in banking, endeavoring to render a particular type of banking service which strives to get as close as possible to the business it serves. I have, therefore, been able to see business life as it is lived—manufacturing and merchandising in action. And in this experience I have found some answers to these questions.

An individual business man can, of course, have little or no control over general business conditions. But that does not mean that bad business conditions, depressions and panics are inevitable, unavoidable, beyond human power. Bad business is not a kind of fate.

It was only a few years ago that business men thought that depressions were like earthquakes or sunspots. Now each year we are realizing more and more clearly that it is within our power to influence to a reasonable degree general business conditions. The Federal Reserve System has been the most powerful force of all for general business stability. And there has been a deeper and wider study of what makes business go up and down—economists, bankers and business men know more about the business cycle—and the knowledge is spreading. And to some extent we have already learned how to control and subdue the violence of business fluctuations.

So if one business man alone cannot control general business conditions, a comparatively few business men in key positions, working together intelligently, can at least influence them. But if the individual is helpless to prevent depressions, at least he can so arrange his affairs as to reduce or avoid the shocks and blows that might come to his business from hard times.

As to the second cause—troubles in a specific industry or line of business—these may be acute or chronic. Every line of business has troublesome problems—handicaps, bad practices, pressure from other industries—which exist all the time. But in times of prosperity they are not serious in their effects—the industry makes money in spite of them—they are forgotten. But as soon as times are not so prosperous, they begin to become annoying and become worse and worse until they may mean the business death of large numbers in the industry.

Again, there has been a tendency on the part of the average business man to accept such conditions as fate. If a certain bad practice has existed for many years, it comes to be accepted as part of the business. And if hard times strike a line, well, it hits all—and as long as his competitor is also having trouble, the average business man does not feel so unhappy.

As for our own individual difficulties—well, we all hate to admit inefficiency. We usually soothe ourselves by calling it hard luck. But, just the same, deep in our hearts, we know that at least fifty per cent of hard luck is our own fault. We know that if we took the steps to know what to do—and actually did it, we could avoid much of what bothers us.

And that, after all, when we come right

Delivered before a recent meeting of the Sheet Metal Ware Assn.

down to it, is the solution to all three types of business problems. Knowledge and the will to apply it—those will reduce business troubles which spring from any cause—whether it be general depression, poor business in a whole line or individual inefficiency.

There is nothing new in this. Business men have known it at least since the Middle Ages when they had the guilds. Business men in each industry got together to swap experience—each knew what the others were doing—they controlled absolutely the conditions in the industry—prices, wages, labor conditions, production and distribution. I am not saying that business men can or should do what the guilds did in the Middle Ages. Industries are now infinitely more gigantic and more complex. And business men also realize that there are other interests besides their own selfish ones to be considered—that the worker and the consumer have their rights.

But the lessons of the medieval guilds were forgotten. Business men forgot that knowledge and the will to use it could determine prosperity. After the Civil War in this country business men began to realize that, by getting together, they could accomplish more than they could individually. Trade associations began to be formed—and they became more powerful. From mere social organizations they became "pools" and trusts. Gentlemen's agreements became conspiracies. And then came the Sherman Anti-Trust Act. I need not tell you how profoundly this legislation and its interpretation has affected business—the very heart and soul of American economic life.

When the World War came, it was realized that only an organized army of industry could win—and the Government encouraged, almost forced, the organization of trade associations. A large proportion of trade associations existing at the present time were formed during the war. It was a great day for American business when a business man realized that his competitor did not have horns and cloven hoofs.

After the war, the attitude of the Government seemed to change. A series of attacks by the Department of Justice and adverse decisions of the Supreme Court almost paralyzed the trade associations. The so-called hardwood and linseed oil cases left trade association executives and members in utter doubt as to what they could and could not do under the law.

It almost seemed as if during the war Uncle Sam had said to his nephews in business: "Co-operate, darn you, co-operate!" and as soon as the war was over his cry became: "Compete, darn you, compete!"

It was the Secretary of Commerce Hoover who fought the case for trade cooperation and won. In every possible way he insisted that many of the activities of trade associations were not only legitimate but absolutely necessary for the industrial efficiency, comfort and standard of living of the nation. He insisted that the law be clarified—that the judicial interpretations be further interpreted positively—that associations be told just what they could do. The recent cement and maple flooring decisions have brought the light he wanted.

Trade association members have accused Uncle Sam of being short-sighted, changeable, arbitrary. But is this the fault of the Government? Hasn't the Government been expressing the very spirit of this nation? "Competition is the life of trade" has always been one of the pet proverbs of this essentially business nation—it is the business expression of our national philosophy as proclaimed in the Declaration of Independence and the Constitution. It was inevitable that means of protecting free competition should have been written into the law of the land.

It was unfortunate, however, that at a critical period in the development of trade associations, the official attitude of the Government should have been a legalistic one—more concerned with the strict interpretation of the letter of the law than with the public welfare it was designed to protect. But the man in the street—

and the average business man—has always considered "free competition" with the same civic regard, almost reverence, as "life, liberty and the pursuit of happiness." At times these precious abstractions were felt to be synonymous.

But what is competition? Competition has come to mean almost anything from advertising to incendiarism. All is fair in love and war and business, it seemed. But unrestrained competition has been the cause of practices which have proved much more dangerous to business and to the public than any instigated by trade associations. In fact, America discovered that just as liberty could become license and the pursuit of happiness could become crime, so trade freedom could become "unfair competition." But leaving out of consideration the extreme competitive practices which approach the criminal in intent or effect, the economic waste of so-called competition is appalling! It is undoubtedly the greatest burden of all which are afflicting both the producer and the consumer. The huge waste of distribution, which the best business minds of the country are now seeking to reduce, is largely a waste due to competition. But I shall not attempt to calculate how many billions are wasted every year as the price we pay for what we call competition.

You cannot see your greatest competitor, but he is with you every business day—through all your working hours. He has his hand on every machine—he trails after every one of your salesmen—he is standing behind the counter when your goods are sold. He is the greatest exponent of unfair competition and restraint of trade. He is the demon Ignorance.

Ignorance is the cause of economic waste. Ignorance of the nature of business fluctuations is the cause of depressions. Ignorance of the facts of supply and demand is the cause of troubles which afflict the separate industries. Ignorance of efficient business methods is the cause of individual failure. In its earlier decisions on trade associations the Government set up ignorance as the dominating power in industry. It was almost sacred. It was almost a patriotic duty of business men to be ignorant —they were forbidden to eat of the fruit of the tree of knowledge.

But the ban is being lifted and the trade association can now go on with its great work of dispelling ignorance and eliminating waste. It can now go on with its work of helping the individual business man fight his three causes of trouble. The trade association can keep him in touch with general business and can work with other trade associations to avoid depression. The trade association can keep him informed as to supply and demand and can eliminate harmful practices and thus keep his industry prosperous. The trade association can help him with his individual problems of production and distribution and make him a more efficient—and "luckier"—business man.

I shall not attempt to make a catalog of the possible activities of a trade association but I shall summarize the basic services which trade associations can render. They are:

a. To replace ignorance in business with knowledge.
b. To eliminate needless waste in competition.
c. To stimulate intelligent, constructive competition.
d. To transmit to the public the benefits arising from these services.

By cooperative study of the market, supply and demand operations could be stabilized. By cooperative research in production, costs could be cut. By using the money and energy now wasted in unnecessary competition, quality could be improved. By cooperation through sound, active trade associations, business could cut prices, not raise them. The trade association is the hope of the consumer.

The competitors you have most to fear are not those in your industry. There has arisen a new competition in the past

decade or two—new competition for all lines of business. The real competition now is not between concerns in the same industry but between different industries —industries supplying similar needs—or even totally different needs. The real competition is not between brands but between products—not for the individual concern's share of the money spent in the industry, but for the industry's share of the national income. You cannot meet the new competition separately. Public education is a cooperative work.

If you are not satisfied with the volume of business, go out and get more. Each of you wants more business—but if each wins away a customer from another, you have simply exchanged customers and nobody gains. The new customer you need is not the one buying a fellow-member's product, but a competing product—or, more possibly, not buying enough—or not buying at all.

The population of the United States is growing fast and its needs are growing faster because its standards of living are going higher. Each of you, therefore, may be sure of a growing business if you keep competing wares and goods from encroaching on the aggregate business of your industry. And that is a task for your association through cooperative publicity and education.

Too many trade association members belong on the theory of "pay your dues and forget it." They are not getting all they can out of their association. Money is a necessary contribution, of course, but there are others which also pay good returns—interest, cooperative activity, ideas. Above all, what is needed is intelligent follow-up of the trail-making work of the association. Each member should follow up the vital educational work of the association with his own. He should make free use of the ideas it develops because the ideas are ammunition which will win his own individual business battles.

The time is not far away when a business man's membership in trade associations will be an important factor in his banker's judgment of his credit rating. It will be that for three reasons: Trade association membership is a measure of character, because it shows the member's ability to get along well with others. Trade association membership is a measure of intelligence of the member's business methods, because he is trying to eliminate competitive waste and to use cooperation as an economical promotion weapon. Trade association membership is a measure of the soundness of the industry, because it is doing something for the stability, efficiency and economy of production and distribution.

What Utility Men Are Made Of

(Continued from page 458)

the next intersection where, usually, a traffic policeman is on duty at that time in the morning. For some reason he was not there, so Jayne drove his truck across one entrance to the intersecting street and alighting, crouched behind a heavy truck, parked at the curb, and waited the oncoming wagon. Only two shots remained in Policeman Cooper's revolver, but Jayne fired so effectively that the wagon driver veered sharply and grazed a trolley car standing in the street. The bandits then abandoned the wagon and scattered. They were soon rounded up by police and citizens.

Jayne turned his attention to his passenger, Cooper, and speeded him to the Samaritan Hospital, more than two miles away, where physicians stated that the policeman had died instantly.

In the meantime, McCready had turned his captive over to the police, which brought the number captured to four. From the testimony of the witnesses, five bandits are supposed to have been involved in the hold-up, one being still at large.

The four have been convicted of first degree murder and were sentenced to death.

Why Monopolize the Word "Monopoly"

The Gas Industry Is Just the Reverse—Contrary to Internal and External Belief

By C. S. REED

THE definition of "Monopoly," as given in the dictionary, is "The exclusive right of engaging in a particular business or *the resulting absolute control of a commodity as enables the price of it to be raised above its real value or above the price it would bring under competition.*"

The first part of this is the meaning probably taken by many utility men, but the second and italicized part expresses the thought of the man on the street, our customer.

C. S. Reed

Yet, at public meetings in Atlantic City, at both the natural and manufactured gas conventions, several of the speakers referred to "Our Monopoly."

If we have a monopoly, why is it that we get approximately the same gross revenue per customer no matter whether we sell gas at 25 cents or $6.00 per million B.t.u.? We get about $50.00 a year for natural gas at 25 cents a thousand and we get about the same amount, or a little less, for manufactured gas at $3.00 a thousand cubic feet. The same amount also holds true for all prices in between those limits, the only differences being those due to geographic location and the size of the community served.

If we have a monopoly, why is it that every increase in the price of our commodity is mostly, if not entirely, offset by a decrease in sales per customer?

If we have a monopoly, why is it that in twenty average homes picked at random in a small city we recently found twelve coal ranges, six electric ranges and five electric water heaters? Why is it that a thousand oil stoves for cooking and water heating purposes were sold in one winter in one small place?

If we have a monopoly, why is it that we can find a Doherty official living on the mains of the Public Service Company of New Jersey and using a coal-fired water heater?

The gas business is just the reverse of a monopoly as generally understood. It is in the highly competitive fuel business.

In attempts to put our gas rates on a competitive basis with other fuels, the monopoly idea is a hard one to eliminate from the minds of the public and the regulatory officials, and it will help considerably if gas company officials will stop referring to "Our Monopoly," either directly or indirectly.

Of course we are not advocating competing public utilities—quite the reverse. The wasteful investment necessary to duplicate the delivery service for gas or electricity is almost universally condemned, and this position will be aided rather than hurt by a knowledge on the part of the public that utilities are nevertheless faced with competition.

EDITORIAL

The Young Man and the Convention

By ALEXANDER FORWARD
Secretary-Manager

THE Editor of the MONTHLY asked me to write something about "What Does the Young Man Get from Conventions," and especially those of the American and regional gas associations.

The answer seems at first blush obvious. The young man receives from his association, in meetings or otherwise, as in all other relations of life, in direct proportion as he puts into it. If he sows intelligent interest he reaps information in the researches of committees, the addresses of the speakers, the opportunity to inspect exhibitions and the contact with his fellows, information that fertilizes his mind and helps him in his present and future job. If he puts in social contacts, coupled with a pleasant smile and a genuine liking for other people, he reaps friendships that may endure through life. If he puts in queries, he will get answers. If he puts in love of his work, without which no man can succeed, he gets out the material for his next and better position.

Yet, there is something more. Without definite purpose to learn any special thing, but with the mind an unexposed film to receive and carry away impressions about the present and future of his business, about the qualities of individuals with whom he comes in contact, about the earnest purpose of the industry's leaders, what he sees and hears will be photographed and used, whether or not he is conscious of it.

There is still another side to this shield. The privates in the ranks today will be the commanding officers tomorrow. Future executives of gas companies and future presidents of the American Gas Association are sitting in the convention auditorium as accountants or engineers or commerical or industrial gas men. Not only do they need the Association and its gatherings, but the Association is in vital need of their presence and their participation. I know of organizations where the same faces and the same lips function year by year, where a new or a fresh voice is almost unheard, and these are the organizations that show signs of decay and approaching dissolution. The professions that will play the vital part in American life in the future are those which are stimulating and encouraging the participation and active and intelligent interest of their young men.

So I might have done a better job on this had the Editor asked me to write on "What the Industry Gets from Its Young Men's Attendance at Convention." But that was not my assignment.

Is Our Advertising Too Indirect?

Perhaps the Gas Company's Copy Writer Should Pay a Call on Old Man Specific

By R. M. SEARLE
President, Rochester Gas and Electric Corporation

R. M. Searle

THE writer was recently asked for his opinion on the following questions: 1. Is there not too much indirection in public utility advertising? 2. Is it not time for utilities to drop good-will and institutional talk and use straight-from-the shoulder selling copy? 3. Utilities have something to sell. Why not sell this specific thing instead of beating around the bush; why, in brief, should not the public utility make as strong an advertising presentation as a manufacturer of automobiles, soup or shoes?

Without attempting to answer these most interesting questions in the order in which they are listed, let us consider them as a whole.

The inference is that some persons believe that utilities have not kept pace with other industries in the technique of advertising; that they have been too conservative, too indirect, and less forceful than the manufacturers of soup and shoes, and that they have harped too much on the glittering generalities of their particular line of operation.

The Rochester Gas and Electric Corporation has been a firm believer in advertising for many years. I believe it is accurate to say that its advertising has always been of the straight-from-the-shoulder variety. While the copy has, of necessity, been varied, as the requirements of our numerous products require, it has consistently been specific, educational, and cooperative. The outstanding feature of our advertising is the keynote of service that characterizes it, service that the large community we serve has long since come to know goes as a guarantee with all products of the company, whether it be gas, electricity, motor fuel, coke, gas and electric devices and equipment or what-not.

There is a keynote underlying every product advertised. Many manufacturers have taken years of time and have spent thousands and thousands of dollars to establish this keynote in the minds of the buying public, for instance, purity, utility, comfort, etc. They have concentrated upon these specific points in their advertising until they have succeeded in registering them upon the conscious and even the sub-conscious minds of the public.

Our company, as I have stated, has conformed to this, and other known methods of advertising by continually pointing out its ability to serve, please, satisfy its customers and make their lives happier, less burdensome and, therefore, more enjoyable through the proper and adequate utilization of its products and services both in industry and the home.

It is true that there is quite a chasm between the advertising demands of a utility and those of a manufacturer handling one specific article or line of goods. We cannot concentrate our advertising on a single statement that becomes generally identified with a quality product through consistent advertising such as "99 44/100 per cent pure." This company has many products and varied types of specific service to offer to the public; it may not pound on one alone, for all of them must be pushed if the company is properly and adequately to co-ordinate its activities to the point of maximum production which, in turn, is the nucleus of healthful volume and economic stabil-

Printer's Ink.

ity. We do, however, follow the same general logic and advertising technique in continuously flagging the 100 per cent service feature that is the company's goal in connection with the use of any one, or all, of its many products.

Of course, like all advertising, utility advertising must be sincere. If it is not, it will surely act as a boomerang.

A utility is no more assured of success than is any other business or organization. It may be successful apparently under mediocre management and without utilizing consistently advertising to the fullest extent, but compare such a utility with one that is adequately managed, advertises it ability to serve and backs up its advertising with a real interest in the welfare of its customers. An amazing difference in the success of the two organizations will be observed.

One accurate measure of the success of any utility is the degree to which it succeeds in serving the entire public. This does not mean merely selling its products to those who demand them, but rather an intensive campaign over a period of years in which every effort is made to acquaint all customers with the utility of those products in bringing about greater general happiness, more hours for leisure in the home, and increased prosperity and satisfaction in business. Unless a utility does this, it is not measuring up to its obvious responsibilities in the community. To accomplish this it must persist in advertising the specific virtues of its many products and teach their proper use to the public.

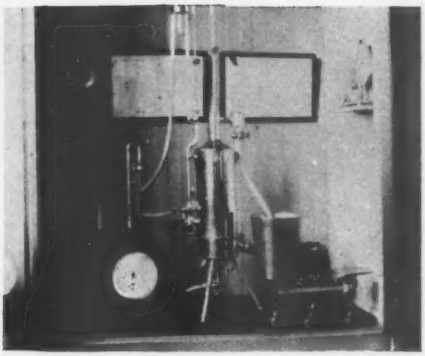
In order to bring about a condition of maximum community happiness in utility service, a utility, like any other progressive business, must continually, consistently and fearlessly advertise its products and services. And this advertising must be as specific as that done by the world of business generally if satisfactory results are to be obtained.

Some housewives still have housecleaning spells; others utilize the many labor-saving devices now on the market for keeping the home in apple-pie condition through the year with a minimum of effort and expense. To a woman in the former class, an advertisement reading, "Look forward to housework with confidence," may be the last straw in her final resolution to make her household duties less arduous through the purchase of labor-saving gas or electric devices. When such a person reads the entire advertisement and senses the underlying keynote of service conveyed in the words, "Ask us about those vexatious questions that are troubling you and count upon our many years of experience in studying household work problems to supply the answer," she is apt to believe that the company is not merely trying to sell her a certain device but that it is also anxious to guarantee her complete satisfaction in its use. The subsequent call of one of the company's home service men who inspects, gratis, all the household's gas and electric devices, gives her still more confidence in the company's ability and willingness to stand back of its advertising as well as its products. That, I think, is being specific in public utility advertising and selling. Certainly, there is nothing indirect about it.

Our advertising is planned, of course, to make people think. It embodies the principles of pride of possession and many other fundamental factors of advertising which are quite generally known and appreciated. A specific appeal, for example, is made by an illustration showing a group of well-lighted, cheery homes, followed by text which begins by saying, "So much depends upon your lighting," and continues with, "Let your home express your hospitality. The light on the porch welcomes your guests before you can open the door. Well-shaded lamps in your living-room emphasize its charm and invite the newcomers to be comfortable. A well-lighted home is a necessary companion and the most valuable assistant to a successful hostess." No charge of indirection can be leveled at copy of that sort.

(Continued on page 476)

Research Work on Gas Ranges



Calorimeter Equipment

Laboratory Now Testing Space Heaters

Work Being Done Definitely Ties In With Increased Sales of Gas and Appliances

By R. M. CONNER
Director, Testing Laboratory

APPROVAL tests have been started on space heaters at the Testing Laboratory and within the next few months the industry will be supplied with an approved list of appliances of this type.

Factory inspection work for extension of approval on similar models of gas ranges has also been started and the next approved list should include several hundred additional models. In a few words, the testing work on two of our most important types of domestic appliances is well under way and by the first of next year testing work on central house heating appliances and water heaters should be begun.

ADDITIONAL TESTS

Range manufacturers should submit any additional models on which they desire prompt approval, at once, for it is desired to complete as many of the range tests as possible prior to taking up additional testing work.

The Approval Requirements committees of the American Gas Association have completed the final requirements on gas ranges, space heaters and flexible gas tubing. This work must be carefully and thoroughly criticized by the industry and essentially precede any appliance testing work.

SELLING THE PUBLIC

We have now arrived at a stage where, if the most good is to be done by the laboratory, we must not only understand its purposes thoroughly ourselves, but go out and sell its value to the American people. A very simple and attractive story can be built up around the laboratory Blue Star Seal of Approval. To be most effective everyone should have a part in its telling. All customers should be educated to look for this seal in the same manner that the average woman would look for the word "Sterling" on silver.

If this is done, not only will our annual gas sales be materially increased, but the business of our reputable manufacturers will be greatly stimulated and the laboratory placed in a position to accomplish the maximum amount of good for the industry.

List of Approved Gas Ranges as of July 1, 1926

Model No.	*Trade Name*	*Manufacturer*
601-R (Thermostated)	York	Abendroth Brothers
601-R	York	Abendroth Brothers
804-R	York	Abendroth Brothers
407-R	York	Abendroth Brothers
505-L	A-B	A-B Stove Company
406-L	A-B	A-B Stove Company
2395 G	Sanico	American Range Corporation
16-40 GG	Fortune	Abram Cox Stove Co.
18-42 GG	Fortune	Abram Cox Stove Co.
2472 SF	Dangler	American Stove Co., Dangler Div.
416 ER	Direct Action	American Stove Co., Direct Action Stove Div.
114-ER	Direct Action	American Stove Co., Direct Action Stove Div.
G-462	Clark Jewel	American Stove Co., Geo. M. Clark Div.
A-482	Clark Jewel	American Stove Co., Geo. M. Clark Div.
R-160 (6-26)	Clark Jewel	American Stove Co., Geo. M. Clark Div.
116-42	New Process	American Stove Co., New Process Div.
R-40 XX	New Process	American Stove Co., New Process Div.
9-606	Quick Meal	American Stove Co., Quick Meal Div.
1105 MPLF	Universal	Cribben & Sexton Co.
1105 TMLPF & TNLPF	Universal	Cribben & Sexton Co.
16-18 R	Crown	Crown Stove Works
602-L	Detroit Jewel	Detroit Stove Works
1016 L Serial No. 1	White Star	Detroit Vapor Stove Co.
660-9-L	Eriez	Eriez Stove & Mfg. Co.
2189 R	Eriez	Eriez Stove & Mfg. Co.
2661 TR	Estate	Estate Stove Co.
2682 TR	Estate	Estate Stove Co.
2640 TR	Estate	Estate Stove Co.
M 418-RT	Glenwood	Glenwood Range Co.
S 118 L-EWT	Glenwood	Glenwood Range Co.
16 H-L	Fairmount	Leonard & Baker Stove Co.
A 255 RO	Magee	Magee Furnace Co.
158-8-3 V	Garland	Michigan Stove Co.
2A 815 RH	Moore's	Moore Bros.
2A 6-15 LH	Moore's	Moore Bros.
2A 4-15 LH	Moore's	Moore Bros.
1837-S	Quality	Roberts & Mander Stove Co.
1938 S	Quality	Roberts & Mander Stove Co.
477 RE	Roper	Geo. D. Roper Corporation
250	Economic	Slattery & Bro. Inc., J. B.
164 C.G.R.	Quick Service	Somerville Stove Works
461-LS Serial No. 5291	Acorn	Standard Gas Equipment Corp., Acorn Div.
D 726 LS	Acorn	Standard Gas Equipment Corp., Acorn Div.
761 RS	Acorn	Standard Gas Equipment Corp., Acorn Div.
830	Oriole	Standard Gas Equipment Corp., Oriole Div.
883-1	Oriole	Standard Gas Equipment Corp., Oriole Div.
823-1 RT	Oriole	Standard Gas Equipment Corp., Oriole Div.
20-16-R	Triplex	Standard Gas Equipment Corp., Triplex Div.
02016 RE	Triplex	Standard Gas Equipment Corp., Triplex Div.
10-14 R	Triplex	Standard Gas Equipment Corp., Triplex Div.
30-18	Triplex	Standard Gas Equipment Corp., Triplex Div
30-16	Triplex	Standard Gas Equipment Corp., Triplex Div.
02018 L	Triplex	Standard Gas Equipment Corp., Triplex Div.
OD 450 SE	Vulcan Smoothtop	Standard Gas Equipment Corp., Vulcan Div.
OD 441 SE	Vulcan Smoothtop	Standard Gas Equipment Corp., Vulcan Div.
OD 456 LSE	Vulcan Smoothtop	Standard Gas Equipment Corp., Vulcan Div
OD 444	Vulcan Smoothtop	Standard Gas Equipment Corp., Vulcan Div.
W 618 RT	Tappan	Tappan Stove Co., The
1184	Tinnerman	Tinnerman Stove & Range Co.
16-240	Crawford	Walker & Pratt Mfg. Co.
16-340	Crawford	Walker & Pratt Mfg. Co.
61-20 L-E	Fire King	Weiskittel & Son, A.
1618 RE	Fire King	Weiskittel & Son, A.
418 R	Wincroft	Wincroft Stove Works

A Gas-Fired Forging Furnace

When Gas Does It Better Than Oil

Gas-Fired Forging Furnaces Show the Advantages of Gas Over Fuel Oil

By H. S. LUTMAN
Northern Indiana Public Service Company

THERE is nothing new about heating a forge furnace with fuel oil. When city gas is used to heat a furnace of this type, it is, indeed, a unique application. In the judgment of the engineers of one of the largest car building plants in the country, the use of gas is practical, for in their plant during the past year ten forge furnaces have been converted from oil to gas. The furnaces were changed over to gas one at a time, which means that each furnace had to give a satisfactory performance before the next one could be converted.

When city gas is selling for 65 to 75 cents per thousand cubic feet and fuel oil for seven cents per gallon at the burner, and an industry decides in favor of gas, there must be a good reason for the change. Here are some of the reasons—greater production, more uniform heat, fewer delays, fewer furnace repairs, ease of control, no stoppage of supply lines, no losses due to leaks and no steam required to heat the gas.

These furnaces are consuming approximately three million cubic feet of gas every month. Fifteen other furnaces in the same shop are being converted to gas just as fast as working conditions will permit.

In this conversion work the gas company co-operates with the customer to the extent that the customer rebuilds his furnace to the design furnished by the gas company which includes modern gas burning equipment. The design of furnace and application of gas is given careful study keeping in mind the economies and increased production desired. The furnaces are the usual type found in many forge shops, that is, plates, angles and fire-brick. The reconstructed furnace has the proper size combustion chamber, which in proportion to the work turned out is much smaller than the oil-fired furnace, and the proper application of gas burners to put the heat where it will do the most good. The furnaces,

(Continued on page 492)

Is Our Advertising Too Indirect?

(Continued from page 472)

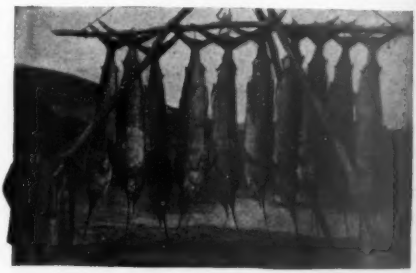
But these examples of hundreds of specific advertisements of the company cover only a small portion of its varied advertising activities. Through its advertisements, the Rochester Gas and Electric Corporation broadcasts timely hints as to the advisability of utilizing certain specific services at definite periods of the year, saving money and inconvenience thereby; it exhorts customers to save, and offers an investment for their funds that has paid out dividends regularly for sixty years; it calls attention to ways in which the company may serve its customers at moving time and in other emergencies; it offers suggestions as to the proper way to utilize its products, and in scores of other ways attempts to render to customers a general service. We believe that anything we can do to increase the all-round well-being of the public is bound to react to mutual satisfaction, for you can't interest a sickly, lukewarm community in much of anything.

This company, today, finds itself faced with the greatest responsibilities of its career, responsibilities it has helped to create through consistent, well-directed advertising, which has increased its sales of appliances and added generously to the strong demand for its products. A measure of this consistent progress is due to the direct appeal of its advertising and to the success with which the keynote, service, has been fused into all the varied classifications of advertisements used in past years.

Of course, like practically every progressive utility, we have made much of the item of good-will and institutional publicity. It appears that this essential item will always be a feature in utility advertising. We must not only gain the good-will of a constantly increasing number of customers each year, but we must also retain that of older customers. It is the same old idea of pounding away on one idea and backing it up until the public really believes that we mean it. Of course, we are only too glad of opportunities to back up this general advertising by specific references to past or present accomplishments in the interesting field of public service.

There is no beating about the bush in our advertising. We know we have something definite to sell, something that the public needs and should have and we present our message as strongly as does the manufacturer of a nationally advertised product in accordance with the standards of modern advertising. We believe in being specific in our advertising and I think we are specific.

In conclusion, I want to emphasize the fact that we believe in regularity of advertising. We advertise in the local papers every day of the year, and believe that this consistent regularity adds considerably to the possible good to be derived from advertising.



J. B. Klumpp, on Being Asked Whether or Not the Fishing Was Good, Replied in the Manner of All Good Ike Waltons. Mr. Klumpp Is Ready to Challenge Mr. Coolidge on the Slightest Provocation

A Cry for Hot Water—Answered!

A Five-cent Prepayment Meter Helps to Solve a Problem for the Portland Company

By C. R. MILLER
Superintendent of Utilization, Portland Gas & Coke Co., Portland, Ore.

SEVERAL of the municipally owned and controlled parks in Portland, Oregon, are equipped with athletic fields where tennis, football and baseball, and other games are played. In connection with these athletic fields there are in most cases small club houses equipped with locker rooms, shower baths, etc. These club houses are set in close proximity to the athletic field and at a considerable distance from the larger buildings in the part where heat is available. Therefore only cold water was supplied to the showers and any one within a few hundred feet of these shower quarters and not acquainted with the situation could not be criticized for drawing a conclusion that there was someone being badly hurt, judging from the plaintive wails coming through every crack and crevice of the walls constituting the shower rooms, when a number of boys were taking showers at the end of their games. A dependable percentage of the men regaining their breath after a cold shower had been heard to remark, "When do we get hot water?"

Two Automatic Water Heaters, Connected to Five-Cent Meters, Solved the Problem.

The park superintendents were approached at regular intervals and without exception had let a sympathetic ear to the wailing ball players, but available money for capital expenditures and operating expenses seemed always to be just a little bit short of providing these accommodations.

One of the illustrations gives a bird's-eye view of the way in which our utilization engineers solved the problem in one club house and paved the way for similar installations in several more. This picture shows two automatic heaters, each connected to a separate shower bath, and each supplied with a five-cent prepayment meter. These meters are the ordinary type of twenty-five cent prepayment meter, except they are geared up on a five-cent basis and a nickle is employed to operate the meter instead of the customary quarter. Each heater is supplied by one meter. With the prevailing rates on prepayment meters in Portland, 37 cubic feet of gas is supplied for five cents.

The other illustration shows a portion of the shower room with one of the showers equipped with a water mixer head with one valve control. There are two holes in the wall which enable the boys to reach the meter and deposit their

A View of One of the Shower Rooms

nickles. These are of a size that do not offer sufficient access to the meters to encourage meddling. A nickle affords a shower lasting from 12 to 15 minutes with a satisfactory water temperature.

An observer reports that on the first day's operation 20 men, comprising the members of two ball teams, all took showers for 30 cents, with hot water to spare. Further reports from the park attendants indicate that the installations are very successful, and that the boys are exceptionally well pleased with the arrangements.

At the point where the service enters the building the head meter is installed, and the park bureau is billed in keeping with the consumption shown on the head meter. The prepayment meters attached to the heaters are supplementary to the head meter, and, in accordance with our policies, they are rented to the customer responsible for the head meter at a monthly charge of 15 cents each. The customers furnish their own locks for the meters when locks are required, and remove the money from the coin boxes at their own convenience.

The pilot lights on the heaters are taken off the fuel line ahead of the prepayment meters.

No operating difficulties of any kind have been experienced up to the present time.

Public Service of N. J. Plans Extension

KEEPING a few steps ahead of the exceptional growth of Camden and vicinity and anticipating a still larger development when the new Camden-Philadelphia bridge is opened, Public Service Electric and Gas Company is about to start work on a large extension to its manufacturing facilities at Camden Gas Works. An addition will be built to the generator house sufficient to accommodate new equipment which will increase the daily capacity by 3,000,000 cubic feet of gas. This is the latest construction project to be undertaken in this district where for some time new gas mains and service extensions have been laid and general improvements in the manufacturing and distribution departments have been made.

The new gas manufacturing machinery will include a waste heat boiler, centrifugal blowers and a steam accumulator. The addition to the building will be sixty-seven feet long and thirty-two feet wide and it will be of brick and steel construction. The centrifugal blowers will be housed in a separate extension, thirty-five by twenty-three feet.

This will give Camden a total capacity of 15,000,000 cubic feet of gas a day including the output of the Camden Coke Company which is 8,000,000 cubic feet per day. Add to this 6,000,000 cubic feet per day produced by the Trenton Works and the total makes 21,000,000 cubic feet a day for the Southern Division territory of the company.

A recent issue of the Conning Tower, the column conducted in the *New York World* by F. P. A., contained the following:

THE WONDERS OF SCIENCE
(From the Hartford Times.)

FOR SALE—COMBINATION GAS RANGE, grafonola and radio, cheap. 3-9087.

Columbia Gas Merger

THE board of directors of the Columbia Gas & Electric Company, by unanimous vote, have approved a plan submitted by President Philip G. Gossler for a merger of the properties of the Columbia Gas & Electric Company and the Ohio Fuel Corporation. The plan was also approved by the directors of the Ohio Fuel Corporation at a meeting held in Pittsburgh.

What About the Gas Business in 1950?

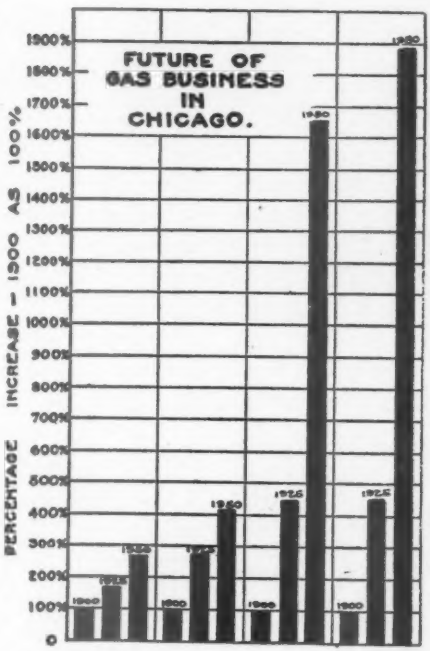
Statistical Analysts Forecast the Growth of the Industry in Chicago—Other Interesting Data

IN 1950 more than blank-blank billion cubic feet of manufactured gas will be sold. This is an increase of blank per cent over 1925, and shows a development of the industrial and house heating loads of another blank per cent in the last quarter century.

Is that how the newspapers will treat the statistical news of the gas industry in 1950? Or is it the mere vaporings of the over-optimistic?

Tapping the future for trends of growth and service is a fascinating business. It is more; it does more. From figures and statistics of the future, problematical as they may be, the far-sighted man can prepare himself for what is to come. At present the gas industry is well-established; it sets new records almost every year. But just how well-established is it to care for the gas business 25 years from now?

The 1926 year book of The Peoples Gas Light and Coke Company, Chicago, Ill., treats this subject in a business-like fashion. The chart which is reproduced on this page is the work of men who study indications. While nothing can be proved of the gas sales in 1950 until 1950, the chart is more than a mere dream.



From Left to Right the Columns Represent Population, Meters, Sales, and Maximum 24-Hr. Send-out

The story is best told by direct quotation from the year book. "The company's production capacity is simply preparation for the future, as charted by engineering and statistical analysts of industrial and population trends. These gentlemen do not prophesy. They take what has happened, combine it with what is happening, and then make mathematics play the oracle.

"The statistical forecast thus made for the city of Chicago alone predicts that total sales of gas by this company in 1950, twenty-five years hence, will be 123,530,000,000 cubic feet. Total sales in 1925, largest in the company's history, were 32,500,000,000.

"The engineers and statisticians thus figure that sales of gas in Chicago alone will be almost multiplied by three in twenty-five years—an increase of 91,030,000,000 or 280.08 per cent. During the twenty-five years, it is figured, the city's population will increase by 1,604,750 or 53.58 per cent. This forecast is illustrated in the graph entitled 'Future of Gas Business in Chicago.'

"If this forecast appears to be over-optimistic, bear in mind that the statisticians figure the cumulative effect, over the twenty-five year period, of industrial and economic trends which are of comparatively recent birth. Intensive adaptation of gas to many processes in heavy manufacturing is one of them. Gas-fired house heating is another. Closer figuring on the economic advantages of gas over other sources of heat is another. Some account is also taken of the growing pressure for conservation of coal and its constituents and for abatement of the smoke nuisance.

"But the basis of the forecast is the way use of gas has increased during the past twenty-five years in proportion to population. This has been going on at a faster rate than is generally realized. Since 1910, while the population of Chicago was increasing about thirty-eight per cent, the company's sales of gas increased more than twice that, or about seventy-eight per cent.

"While the population has been increasing approximately 38 per cent, the use of gas has increased at more than double that rate—approximately 78 per cent. Increased large-volume use for commercial-industrial and house heating purposes has been an important factor in this."

Further excerpts from The Peoples' year book are given here.

COAL is sun-energy in the form of heat, stored up millions of years ago in the carboniferous age of the world when this Earth was in the making.

The common or commercial method of releasing this energy and making it usable is by burning the coal. But when coal is burned in the "raw" state, only a small percentage of its useful energy content—usually less than twenty per cent and often only five per cent is utilized. The rest of it is wasted.

Generally speaking, the heat-energy content of coal is most usefully efficient in the form of gas. The amount of heat-energy now supplied to industry in the form of gas amounts to the equivalent of only about 9,400,000 tons of coal a year.

Approximately 650,000,000 tons of coal are mined and burned in this country each year. The appalling economic waste of burning so much of it "raw" is inexcusable, even though the country has coal deposits estimated to be sufficient for hundreds of years. The deposits are not all of high grade and as the years pass, getting at them becomes more expensive.

The modern gas manufacturing plant thus becomes in the fullest sense an agency for the conservation of coal and an ally of industry. The facts indicate the practically unlimited opportunity for expansion in ways and means of liberating the giant Energy from the shackles of old and crude methods of heat utilization.

GAS as an ally of industry has only just begun its career. You may wonder why it has been so long in getting a start, since it has been a commercial product for more than a hundred years.

The answer is another question: why did it take men thousands of years to learn that they could put on their shirts as they put on their coats, instead of pulling them over the head?

But factory managers are now rapidly learning what their wives learned long ago: that gas is an ideal fuel because it is clean, convenient, always available, easily controllable, and in the long run, economical.

In the processes of industry, gas is, of all fuels, the most easily and accurately controlled. In large or small units, it will deliver exactly the required amount of heat and maintain exactly the desired temperature—automatically—indefinitely and without attention. It is "the fuel with brains."

You can hardly think of an article of commerce in the production of which gas cannot find an important place. Persistent promotional work is widening the field year by year. The tendency is toward introducing gas into practically every industry where heat processes are a factor in production.

The gas industry of the United States, with this company participating, is now cooperating with manufacturers of gas-burning industrial equipment, in research and experimentation, the purpose of which is to develop factory equipment of the highest efficiency.

In Memoriam

Karl K. De Prez, Chambers Manufacturing Company, Shelbyville, Ind.

William S. Townsend, Trinidad Electric Transmission, Railway, and Gas Company, Trinidad, Colo.

Alfred D. Kressler, Consulting Engineer, Clifton, Ohio

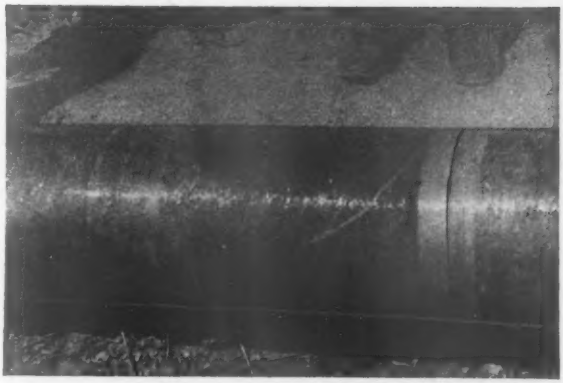
F. D. Murphy, Houston Gas & Fuel Co., Houston, Texas

A. P. McCarthy, Bangor Gas Light Co., Bangor, Me.

C. A. Luchenbach, Los Angeles Gas & Electric Corp., Los Angeles, Calif.

Procedure Control for Bronze Welding Cast Iron Pipe

FOR several years high pressure distribution of gas has been a principal topic of discussion. The economies are obvious. Among them are centralized gas production and control, development of the by-products process best suited to large scale production, lower capital requirement for mains and services, and greater extension thereof per dollar invested, the last two being of primary importance in supplying the demands for gas service in suburban and rural communities.



Lined up for Welding

Cast iron pipe has been used to a large extent for gas distribution, but the problem of high-pressure jointing has been difficult to solve. A joint is required that will be tight not only at low or medium pressures but that can be depended upon for tightness under maximum service pressures, preferably as impervious to leakage as the pipe structure itself.

Oxwelding, using cast iron welding rod, as a solution of the problem was subject to the limitation of welding this material under field conditions where facilities for properly doing the work are not always available.

Approximately one year ago the Linde Air Products Company conducted a series of experiments and accompanying laboratory investigations on the possibility of using bronze instead of cast iron as a weld metal. During the year a number of gas distribution lines were joined by this method. The lines so laid have, in general, given a good account of themselves so that bronze weld jointing of cast iron pipe can be looked upon at present as a satisfactory and dependable means of making a high-pressure joint.

The following procedure control embodies recommended methods of bronze welding and laying cast iron lines of maximum 12″ diameter. It should be remembered that there are some factors in laying a cast iron line peculiar to the line itself, for which provision can best be made by those in charge of the work. A procedure control cannot anticipate these in every case and allowance should be made accordingly.

(A) CHECK OF THE WELDERS

1. Experience—Welders should preferably be experienced in bronze welding of cast or malleable iron, and should be familiar with ripple welding of steel plate or pipe.

2. Qualification Tests—Before assignment to actual work, each welder should be required to pass the following qualification tests:

(a) He should be given a short section of cast iron pipe to be used in the proposed line, on which, under the supervisor's observation, he should deposit in a circumferential direction a bronze weld at least 2 in. long and not less than 1 in. wide. The method of heating

From **Oxy-Acetylene Tips**

the cast iron, speed of welding, use of flux, manner and method of depositing bronze, and general welding technique should be noted to see if tinning is being obtained and approved welding practice followed. The bronze so deposited should then be welded off and the pipe surface examined to see if it has been properly and uniformly tinned. A good weld will show an unbroken layer of adhering bronze.

(b) Two plain end sections of cast iron pipe, about 6 in. long, of the same material, size and thickness as that used in the line, should be aligned and bronze welded together by the operator according to procedure practice described in Section E. The pipe should be rotated as welding proceeds. General welding technique should be checked, as in (a) above.

The bronze welded joint should then be broken by sledging the pipe surfaces on both sides of the weld. A good joint will not fracture by the bronze pulling away from the cast iron. The broken section containing the weld should then be flattened by hammering and the joint examined. If the pipe has been properly tinned the cast iron will adhere to the bronze at practically all points.

(c) If position or bell-hole welds are required in the proposed line, two 6 in. sections of cast iron pipe with plain ends should be aligned in a fixed horizontal position. The welder, under the supervisor's observation, should make a position bronze welded joint according to procedure and practice for this type of joint described in Section E.

The joint should be subjected to and meet requirements of the same breaking test as prescribed for the rotated weld. Operators who qualify may be used for making bell-hole welds.

The average applicant for the position of welder probably having had little experience in bronze welding of cast iron pipe, his first test weld may not be satisfactory. At the discretion of the welding foreman he should be allowed to submit additional test specimens.

3. Special Checks—If inspection (see Section F) of the welds shows that defective welds are being made by any welder, he should be required again to submit satisfactory test specimens before being allowed to return to his regular work.

(B) SELECTION AND INSPECTION OF MATERIAL

1. Pipe—(a) Sand Cast Pipe. If sand cast pipe be used it should conform to specifications of the American Gas Association or American Water Works Association for cast iron pipe, except the ends of the pipe should be plain and the end faces finished square. The ends should be free from porosity, adhering mold sand, blow holes, sand inclusions and other defects.

(b) Centrifugal Cast Pipe. If centrifugal cast pipe be used it should meet the service requirements specified by the American Gas Institute or the American Water Works Association for cast iron pipe. End faces should be finished square.

Pipe should be free from laminations and loose scale and pipe ends should be free from cracks, blow holes or other defects.

(c) If the pipe is supplied with two or more lengths bronze welded together by the manufacturer, the same test as specified in Section F should be made prior to shipment, and each weld so made be marked for identification.

(d) The pipe should be tested for weldability by selecting a few sections at random and depositing at the ends a layer of bronze about 1 in. long. Behavior of the material should be noted to see if the pipe responds readily to the tinning and welding operation. The bronze should be melted off and the surface of the pipe examined to see if it has tinned properly and if there is proper adhesion of bronze to iron.

(e) Cast iron pipe for bronze welding should not be tar coated by the hot-dip process as the coated surface is difficult to tin and satisfactory welding is impossible. As soon as possible after manufacture the ends of pipe to be supplied for bronze welding should be protected by a coat of tar or asphaltum paint applied by brush for a distance of approximately 3 in., the pipe being at atmospheric temperature.

2. Welding Rods—(a) Welding rod should be Oxweld No. 10 Bronze Rod or rod conforming to the following specifications:

	Per Cent
Copper	59-62
Tin	0.5-1
Lead—not over	0.10
Iron—not over	0.20
Aluminum	none
Zinc	remainder

Double Lengths Are First Welded

Each rod should display good welding qualities and flow freely and smoothly. Any rod found defective should be discarded.

(b) The size of welding rod should be as follows:

Nominal Pipe Size—In.	Diameter of Rod—In.	Length In.
2-10 inclusive	3/16	36
12	1/4	36

3. Welding Flux—It is essential that a flux of good quality be used to obtain proper tinning. Oxweld Brazo Flux or a bronze welding flux supplied by a reputable manufacturer should be used; see Section B, Par. 1, for test of fluxing properties.

4. Gases—Oxygen and acetylene are the only suitable gases.

5. Welding apparatus—Welding apparatus manufactured by any reputable concern may be used. The table below should be followed for size of welding head or tip for Oxweld apparatus or corresponding sizes for other types.

Size of Welding Head To Be Used

Nominal Dia. of Pipe—In.	Wall Thickness In.	Size of Oxweld Blowpipe Head	Wall Thickness In.	Size of Oxweld Blowpipe Head
2	..	6	..	..
4	0.40	6	0.31	7
6	0.43	10	0.35	8
8	0.45	10	0.38	8
10	0.49	12	0.42	10
12	0.54	12	0.46	10

(c) DESIGN AND LAYOUT OF BRONZE WELDED JOINT

1. Spacing of Pipe—The plain squared ends of the pipe should be separated about 1/16 in.

Welding on the Line

2. Welding Procedure—(a) The pipe should be so thoroughly tinned with bronze as to assure an adhering and interlocking layer of deposited metal on its surface.

(b) The deposited bronze should be free from blow holes and excessive porosity.

(c) The bronze weld should be so built up that the metal will present a gradual increase in thickness from pipe surface to the center of the weld.

(d) Weld Dimensions. Width and thickness of the bronze weld should approximate these figures:

Nominal Dia. of Pipe In.	Approximate Outside Dia. In.	Approximate Dim. of Thickness (T) In.	Bronze Weld Width (W) In.
2	2.50	1/8	5/8
4	4.80	3/16	3/4
6	6.90	3/16	1
8	9.05	1/4	1-1/8
10	11.10	1/4	1-1/4
12	13.20	5/16	1-3/8

(D) PREPARATION FOR WELDING

1. Alignment—The cast iron pipe sections should be swabbed out and lined up perfectly straight in horizontal and vertical planes.

The abutting pipe ends should be as nearly concentric as possible and any variation should be equalized.

2. Cleaning—If the pipe ends are painted by the manufacturer as suggested in Sec. B, Par. 1, welding may proceed without further preparation. If the pipe ends have not been painted, all scale, rust, dirt, mold sand or other foreign matter must be thoroughly removed from the ends before welding.

(E) WELDING TECHNIQUE ORGANIZATION AND LINE CONSTRUCTION

1. Organization—The welding and contruction organization will be necessarily dependent upon the length and location of the line, the time limit for completion, coordination of the different construction gangs, contour of the terrain, and other factors.

If two or more lengths of pipe have not been bronze welded together by the manufacturer, this first step in laying the line should be taken at the unloading point, or other convenient location, prior to stringing pipe along right-of-way.

(a) Aligning. The pipe having been strung, the sections should be lined up for welding. If the trench has been opened, alignment should be made over it on skids, the ends of the sections being spaced as previously specified.

(b) Ditching. The floor of the trench should be as level as possible and free from obstructions which would impose undue strain on the pipe. If necessary to secure good alignment after lowering the pipe, blocking and tamping should be employed.

(c) Tacking and Welding. One welder and one helper should be assigned to and be responsible for welding together a unit of from six to nine lengths (72 to 108 ft.) over the ditch.

Two previously coupled sections (two or more lengths each, welded either by the manufacturer or at point of delivery) should be aligned, tacked and welded together, the pipe being rotated by the helper so that welding may be performed on the upper surface of the pipe. The sections so welded together should then be joined by tacking and welding into six, eight, or nine-length welded sections as determined by the requirements of the proposed line.

If oxygen and acetylene containers are located approximately mid-length of the six to nine-length section and 50 ft. of hose provided for conveying each gas to the blowpipe, loss of time in shifting the containers will be avoided.

(2) Welding Technique—(a) Rolling Bronze Weld. Select the size of blowpipe or tip specified for the wall thickness and variety of pipe to be welded, and the specified size of welding rod. A neutral flame must always be used to insure good results.

Begin welding operations at the joint nearest the center of the section and on the top quarter of the pipe circumference. Apply the blowpipe flame generally and uniformly over the surface of the pipe ends for about 30 seconds, after which concentrate on the top quarter until heated to a dull red (approximately 1,200 deg. F). Reasonable time should be allowed for the heat absorption by the pipe structure adjacent to the weld. Remember the fact that the material being welded is cast iron.

Fluxing of the rod is best done by slightly preheating the end and dipping it into the flux container.

Hold the fluxed rod in the blowpipe flame approximately in line with the joint formed by the abutting pipe ends and slightly above it.

Employing the ripple method of welding (Section A. Par. 1), move the blowpipe and fluxed rod across the joint. If the pipe be of acceptable quality as proved by test (Section B), a tinned surface will be formed. Apply bronze at the lowest possible temperature that will pro-

(Continued on page 509)

Bodine and Thompson New U. G. I. Heads

Samuel T. Bodine

Arthur W. Thompson

SAMUEL T. BODINE was elected chairman of the Board of Directors of The United Gas Improvement Company at a special meeting of the Board held recently in Philadelphia.

Arthur W. Thompson, of Pittsburgh, was elected President of the U. G. I. to succeed Mr. Bodine.

Both elections will become effective September first.

Mr. Thompson is generally recognized as one of the leading public utility executives in the United States. He is President of the Philadelphia Company and its affiliated companies, including the Duquesne Light Company, Pittsburgh Railway Company, Equitable Gas Company, and others. Mr. Thompson is a director of the Pennsylvania Railroad and has been connected with railroad service in various executive capacities. Mr. Bodine, who has been president of The United Gas Improvement Company since 1912, began his business career as a clerk. Mr. Thompson started as a rodman in the employ of a railroad.

After adjournment of the Board of Directors, Mr. Bodine issued a statement in which he referred to Mr. Thompson as a very congenial and helpful associate.

"It gives me great pleasure to announce the fact that I have succeeded in my efforts further to strengthen the organization of our Company by securing the services of Arthur W. Thompson, and that my recommendation has been unanimously approved by the Board of Directors and made effective by my election as Chairman of the Board of Directors and Mr. Thompson's election as President, both elections becoming effective on September 1, 1926," said Mr. Bodine.

"Mr. Thompson is at present, and has been for a number of years, President of the Philadelphia Company and of its various subsidiaries which operate the gas, electric, and transportation utilities of Pittsburgh, Pennsylvania, including the Duquesne Light Company, whose electric plant is confessedly one of the most efficient in the United States. He is in the prime of life and is one of the recognized successful leaders in the public utility field.

"As Chairman of the Board of Directors I shall continue to serve the shareholders as actively as in the past and with the same authority in shaping and directing the policies of the Company. In this work Mr. Thompson will be a very congenial and helpful associate.

"I bespeak for both of us a continuance of the cordial support of the shareholders and approval of the public which has been so helpful in the past, and which makes a life devoted to the Public Service so well worth while."

Arthur Webster Thompson was born at Erie, Pa., May 8, 1875, the only son of Sheldon E. and Laverne Thompson, both of whom

were of old New England lineage. After completing his public school and high school courses he entered Allegheny College at Meadville, Pa., from which he was graduated with the degree of C. E. in 1897.

While still in college, he began work as rodman on location work with the Pittsburgh, Bessemer, and Lake Erie Railroad. Following his graduation he served a year as draftsman for Wilkins and Davison at Pittsburgh. A short while after he joined the Baltimore and Ohio as chief of a party on surveys. He was with the B. & O. from 1900 to 1918. Starting as assistant division engineer at Pittsburgh, he rose rapidly to the position of chief engineer of maintenance of way in 1907. In 1910 he was made chief engineer of the Baltimore and Ohio System and in 1912 was appointed third vice-president in charge of traffic and commercial development, and on June 1, 1918, he was made Federal Manager by the United States Railroad Administration of several large eastern railroads. On February 1, 1919, he joined the Philadelphia Company as President.

Mr. Thompson is a director of several large concerns, including the Pennsylvania Railroad, Union Trust Company of Pittsburgh, Eastern Rolling Mills Company and others. He is also a member of the American Society of Civil Engineers, National Electric Light Association, American Electric Guild, and American Electric Railway Association, and the American Gas Association.

The offices of the Nebraska Information Bureau have been moved from 361 Fraternity Building to 1519 O Street, Lincoln, Neb.

Vannemann Favors Gas House Heating

REPORTING on a gas-fired house heating boiler installed in his home last winter, Charles D. Vanneman, chief engineer, New York State Public Service Commission, says that the gas furnace gives a more regular heat than coal or oil, although gas costs about fifty per cent more.

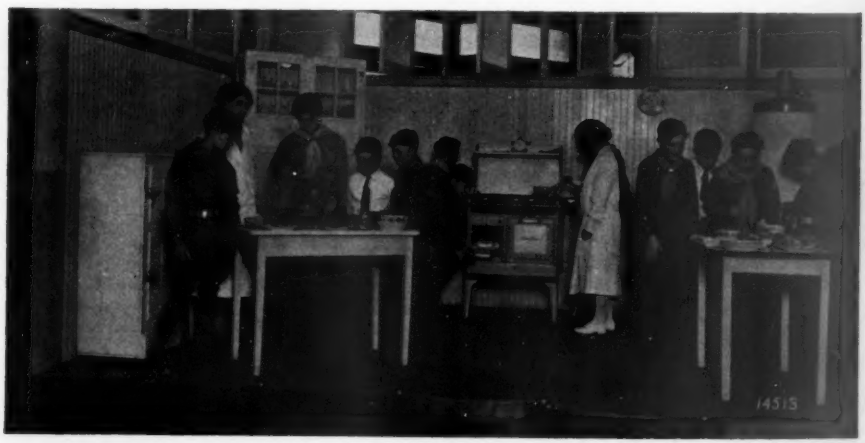
This cost was estimated merely upon the difference in the cost of gas over coal, and did not take into consideration the wear and tear on the house caused by the handling of coal and ashes, or the cost of a furnace man.

Mr. Vanneman estimates the cost of oil for an oil-burning furnace to be about 25 per cent more than coal.

According to Mr. Vanneman, the greater use of gas in the community would bring down the cost of gas, by means of spreading a fixed overhead over a larger volume, reducing the gas rates for both large and small customers.

He sees no future reduction in the price of coal, but thinks it possible that the future might experience an increase in the cost of oil for fuel use as the demand increased. The inroads of substitutes for coal developed and put into operation in the past winter because of the anthracite strike make it seem virtually sure that there will be no increases in coal prices during the coming winter.

Mr. Vanneman is of the opinion that the decreased use of coal for heating purposes in homes and apartment houses might cause the coal operators to curtail their output during the coming year.



Honor Students of a Boy Scout's Cooking Course Conducted by Miss Mildred Magonile, Brooklyn Union Gas Company. The Scouts Showed Keen Interest in Learning the Proper Method of Cooking Foods and Their Nutritive Value.

THE TIDE OF MEN AND AFFAIRS

L. B. YOUNG, who has been general manager of the Michigan Stove Company, Detroit, Mich., since 1914, has resigned that position. Mr. Young has made no plans for the future.

CLIFFORD E. PAIGE, vice-president, Brooklyn Union Gas Company, Brooklyn, N. Y., has been elected a member of the board of trustees of the South Brooklyn Savings Institution.

W. H. GARTLEY, engineer of manufacture, Philadelphia Gas Works, U. G. I. Company, Philadelphia, Pa., has been made chief engineer.

HARRY MERRILL HITCHCOCK, director of publicity for the Columbia Gas and Electric Company, Cincinnati, Ohio, has been made a director of the Advertising Club of Cincinnati.

ALBERT H. SARGENT, who has been chief clerk of the Bangor Gas Light Company, Bangor, Me., has been made manager, filling the place left vacant by the recent death of Albert P. McCarthy.

P. T. DASHIELL, assistant engineer of works, Philadelphia Gas Works, U. G. I. Company, Philadelphia, Pa., is now engineer of works.

O. A. EVANS, second assistant engineer of works, Philadelphia Gas Works, U. G. I. Company, Philadelphia, Pa., has been made assistant engineer of works.

J. VAN G. POSTLES, who has been engineer, Philadelphia Gas Works, U. G. I. Company, Philadelphia, Pa., has been made assistant to chief engineer.

R. C. DOWNING, who has been chief chemist and assistant superintendent, has been made superintendent of Manufacturing, Lowell Gas Light Company, Lowell, Mass.

J. B. NICHOLS, industrial engineer, who has been with the Central Illinois Light Company, Peoria, Ill., is now connected with the Consumers Power Company, Kalamazoo, Mich.

BERT HARVEY ROBERTS, formerly industrial engineer, Toledo Edison Company, Toledo, Ohio, is now with the Rockford Gas Light and Coke Company, Rockford, Ill.

G. HORACE MCALOAN, who has been in the paymaster's department, Central Union Gas Company, New York, N. Y., is now treasurer, Ralph W. Vorhees and Company, Inc., 115 Broadway, New York, N. Y.

WM. S. GRIER, treasurer, Automatic Radiation Company, Philadelphia, Pa., is now branch manager for the Hoffman Heater Company, with offices in Philadelphia.

GILBERT C. SHADWELL, who has been sales manager, Surface Combustion Company, Long Island, N. Y., is now connected with the Eclipse Fuel Engineering Company, 39 Cortlandt St., New York, N. Y.

SAMUEL GREEN, superintendent's assistant, Nassau Works, the Brooklyn Union Gas Company, Brooklyn, N. Y., has been transferred to the Citizen's Works, same Company.

WM. W. ODELL, U. S. Bureau of Mines, San Francisco, Calif., is now with the Bureau of Mines, Minneapolis, Minn.

THOMAS E. CUSHING, engineer, Philadelphia Suburban Gas & Electric Co., Chester, Pa., is now with the S K F Industries, 165 Broadway, New York, N. Y., as mechanical engineer.

ALBERT C. WALKER, who has been connected with the Central Union Gas Company, New York, N. Y., is now with the Abendroth Brothers, Port Chester, N. Y., as salesman.

HAROLD K. SEELEY, assistant to general superintendent, U. G. I. Company, Philadelphia, Pa., has been made superintendent of gas production for the Syracuse Lighting Company, Syracuse, N. Y.

IRA F. WORTENDYKE, who has been occupying the post of vice-president and general manager of the New Gas Light Company of Janesville, Wis., for a number of years, has been appointed manager of the Wisconsin Power & Light Company's newly combined electric and gas properties in Janesville. Under this new plan, which is the result of the recent purchase of the New Gas Light Company by the Wisconsin Power & Light Company, offices of the two companies will be consolidated.

A. L. THURSTON, who has been connected with the Beloit Water, Gas & Electric Company for the past nine years in various capacities, has been named local manager of the Wisconsin Power & Light Company's properties at Beloit. Mr. Thurston will work under the leadership of T. F. Keefe, who is now division manager of the company with headquarters in Beloit. Mr. Keefe was made manager of the Beloit properties last year.

JEFFERSON J. CAGNEY, who has recently held the position of supervisor of the Western properties under the management of the General Engineering & Management Corporation, has been made manager of that corporation with headquarters at 165 Broadway, New York.

JAMES G. O'KEEFFE AND FREDERICK A. LYDECKER—classmates at Stevens Institute of Technology, graduating in 1907—were appointed general superintendents in the gas department of the Public Service Electric and Gas Company, Newark, N. J., the same day. Mr. O'Keeffe, now engineer of construction, becomes general superintendent of manufacture and Mr. Lydecker, now assistant general superintendent of distribution, becomes general superintendent of distribution.

These appointments have also been made:

Charles W. Smythe, now assistant to the general superintendent of manufacture, to be assistant general superintendent of manufacture.

Harry Ellis, now engineer of distribution, Southern Division, to be assistant general superintendent of distribution.

William H. Bettle, now superintendent of meters, Essex Division, to be general superintendent of meters.

William H. Chadwell, formerly superintendent of Front Street Gas Works, Newark, now attached to the drafting department, to be assistant construction engineer.

C. R. De Hoff, gas new business superintendent, Public Service Company of Colorado, has resigned to become branch manager for the Mueller Furnace Company with headquarters at Salt Lake City. L. B. Wilcox, who has been industrial fuel engineer at Fort Collins, has been appointed to succeed Mr. De Hoff.

OUR NEW MEMBERS

Gas Company Members

Chambersburg Gas Company, Chambersburg, Penna.

Manufacturer Company Members

Odin Stove Manufacturing Co., Erie, Pa.
Carrier Engineering Corp., Newark, N. J.
McDonald Ledger and Loose Leaf Co., New York, N. Y.

Active Members

Fairchild, F. Regnault, Cruse-Kemper Co., Ambler, Pa.
Pfaff, George Charles, Bartlett Hayward Co., Baltimore, Md.
Wheeler, Raymond B., Tappan Stove Co., Mansfield, O.
Langworthy, H. E. (Mrs.), Public Service Company, Denver, Colo.
Davis, John W., American Tar Products Co., Pittsburgh, Pa.
Reeve, Charles S., Barrett Co., New York, N. Y.
Taylor, Dean W., Pennsylvania Edison Co., Easton, Pa.
Forker, John N., American Tar Products Co., Pittsburgh, Pa.
Flanigen, John M., The Ohio Public Service Co., Alliance, O.
Jayne, David W., American Tar Products Co., Pittsburgh, Pa.
Moxon, Leslie B., The U. G. I. Contracting Co., Philadelphia, Pa.
Wells, John H., Hornell Gas Light Co., Hornell, N. Y.
Peterson, Anna J. (Mrs.), The Peoples Gas Light & Coke Co., Chicago, Ill.
Akerlow, G. W., Western United Gas & Electric Co., Aurora, Ill.
Hardy, Herbert F., U. G. I. Contracting Co., Philadelphia, Pa.
Talbott, A. M., Toledo Edison Co., Toledo, O.
Vogelback, William E., Spooner & Merrill, Grand Rapids, Mich.
Franck, Bernard T., American Light & Traction Co., New York, N. Y.
North, Edwin, Westchester Lighting Co., Yonkers, N. Y.
Birtch, Fred E., Niagara Water Heater Co., Buffalo, N. Y.
Rappeport, William, Nassau & Suffolk Lighting Co., New York, N. Y.
Stone, Gerald D., Carbide & Carbon Chemicals Corp., New York, N. Y.
Ermold, Mark A., U. G. I. Contracting Co., Philadelphia, Pa.
Sigal, Harry D., J. A. Williams & Co., Pittsburgh, Pa.

Gas Has Place in the Movie World

GAS is now a competitor of the famous Merton, of movie fame. Two studios, namely, the First National and Universal City, have recently been piped for gas.

In the First National Studio, gas is the only fuel used in the entire plant, which comprises over thirty buildings. The four huge stages are heated by indirect steam systems supplied from two low-pressure gas-fired plants, the cutting rooms by a direct hot-water system, also supplied from a gas-fired boiler, and most of the other buildings by either gas or gas-steam radiators.

In addition to heating the buildings, gas will be used for water heating, baking cores and melting metals in the foundry, baking enamel, and many other purposes—a much greater variety of uses than is found in the average industrial plant.

LIST OF APPROVED TYPES OF FLEXIBLE GAS TUBING AS OF JUNE 1st, 1926

3/8" Gaspruf Stove Tubing with Eureka Ferrules ..Atlantic Tubing Co.
5/16" "W" Gas Tubing with Eureka Ferrules ..Atlantic Tubing Co.
5/16" Gaspruf Stove Tubing with Aluminum Ferrules crimped on Chicago Tubing & Braiding Co.
5/16" Evertite Tubing with Aluminum Ferrules crimped on Eastman Mfg. Co.
5/16" Excello Flexible Gas Tubing with Aluminum Ferrules crimped on Excello Mfg. Co., Inc.
5/16" Indestructo Tubing with Aluminum Ferrules crimped on Federal Tubing Co.
5/16" No. 324 Sta-Tite Gas Tubing with Shrader Ferrules New York Gas Tubing Co.
5/16" No. 325 Sta-Tite Gas Tubing with Aluminum Ferrules crimped on New York Gas Tubing Co.
5/16" Penflex Metal Hose with Aluminum Ferrules crimped on Penn. Flexible Metallic Tubing Co.
5/32" Titeflex Metal Hose with Shrader Ferrules Titeflex Metal Hose Co.
5/16" Titeflex Metal Hose with Shrader Ferrules Titeflex Metal Hose Co.
1/4" Titeflex Metal Hose with Shrader Ferrules Titeflex Metal Hose Co.

Affiliated Association Activities

G. W. Stiles
President, Operating Division, New England Gas Association

Pacific Coast Gas Association

The Thirty-third Annual Convention of this Association will take place in Pasadena, California, August 23 to 27, inclusive, with headquarters at the Wista del Arroyo Hotel.

The Convention will bring together the leaders of the gas industry from the states of Washington, Oregon, California, Idaho, Nevada, and Arizona, and from the Canadian Province of British Columbia. A feature of the meeting will be a session attended by only the executives of gas and appliance companies. At this meeting policy matters will be discussed involving the future of the gas industry and the place to be taken in the future by the Association.

Among the prominent men on the program are A. B. Macbeth, Presidential nominee of the American Gas Association, and Lester S. Ready, Chief Engineer of the California Railroad Commission.

The Commercial Section will devote a great deal of time to the discussion of the Blue Star Plan of the American Gas Association, and all sections will attempt to develop means to tie their work in more thoroughly with the work of the parent association.

The general program is perhaps the most ambitious the Pacific Coast Gas Association has ever attempted, and in order to complete the program and to allow time for discussion of the many topics, four business days will be essential. The Convention will be the culmination of possibly the most successful and useful year in the history of the Association—a year marked by great activity in commercial development, by the publication of the Gas Appliance Installation and Service Manual, by a great deal of intensive technical research, and by a growth in membership of nearly 20 per cent.

A unique feature of the program will be an inspection tour of some notable house-heating installations on the lines of the Los Angeles companies, and a working exhibit of several types of machine bookkeeping systems.

The conventions of the Pacific Coast Gas Association have always been attended by a large number of ladies, and a considerable part of the work of the Convention Committee, under the leadership of W. M. Thompson of Pasadena, has been in arranging adequate entertainment for them. This includes luncheons at the Annandale Golf Club, Flintridge Golf Club, and at the Casa del Mar at Santa Monica. There will also be a ladies' golf tournament, a theatre party and a trip to the top of Mt. Lowe. The most elaborate entertainment feature, in which the men also will participate, will be a trip to Catalina Island which will occupy the whole day of Wednesday, August 25. There will also be the customary golf tournament for men, always a hard fought affair.

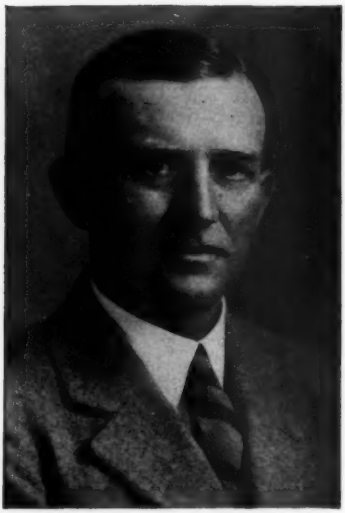
A convention newspaper will be published on Tuesday, Thursday, and Friday. It will be called "Balloon Juice."

The Convention will close with the Annual Banquet of the Association on Friday night, August 27.

Following are only a few of the many splendid papers and reports to be presented: "Coals Suitable for Gas Manufacture in California," by W. W. Odell; "Gas Company Merchandising," by C. B. Babcock; "Tripartite Form of Gas Rate Schedule," by Rudolph Jenny; "Factors in Prolonging the Life of Buried Pipe," by H. S. Christopher; "Effect of Oxygen and Water Vapor in Accelerating the Interior Corrosion of Gas Mains," by J. A. Harritt; "Increasing Gas Consumption Through Existing Services," by J. E. Jones; "The Genus Blah," by D. L. Scott; "Combustion Charts for California Gases," by F. Hough; "Test of Super-Refractories in Oil-Gas Generators," by H. J. Knollman; "Starting Right in the Use of Gas," by G. A. Campbell; "Approaching the Ideal Gas Manufacturing Process," by Geo. Wherle; "Indexing a Filing of Gas Engineering Data," by W. M. Berry.

Empire State Gas & Electric Association

The 22nd Convention of this Association is to be held at the Lake Placid Club, Lake Placid, N. Y., Monday and Tuesday, October 4 and 5, 1926. The program is being prepared and will be announced in due time.



Charles R. Henderson
President, Michigan Gas Association

Southern Gas Association

The third annual Gas Meter Lecture Course sponsored by the Southern Gas Association will be held in Atlanta, Ga., August 3, 4, and 5, 1926, with headquarters at Hotel Ansley. The Committee in charge of the course is headed by Charles Leach of the Macon Gas Co. with M. H. Pittman of the Georgia Railway & Power Co. as vice-chairman. The course consists of lectures, shop practice, demonstrations, and discussions of various meter and distribution problems.

Secretary J. P. Connolly has instituted a drive for two hundred new members before April 1, 1927, and all gas men in the large territory embraced by the Southern Gas Association are urged to affiliate with it. Application forms can be secured from Mr. Connolly, 141 Meeting St., Charleston, S. C.

The 19th Annual Convention of the Southern Gas Association is to be held in Atlanta, Ga., April 19, 20, and 21, 1927.

New Jersey Gas Association

The Industrial Gas Sales Promotion Committee of this Association has compiled and published an Industrial Gas Salesman's Handbook. The purpose of this Handbook is neatly worded in its foreword—"to assist those gas companies who do not maintain an industrial gas department, in obtaining the industrial gas business in their community." Copies can be secured through the Secretary of the New Jersey Gas Association, Louis Stoecker, Public Service Electric and Gas Co., Newark, N. J.

Canadian Gas Association

A spirit of optimism on the outlook for the gas industry introduced by President J. J. Humphreys in his keynote address prevailed throughout the Nineteenth Annual Convention of the Canadian Gas Association held in Montreal, July 8 and 9, 1926. The program committee and the officers presented a program of papers of outstanding merit. The discussion of these papers was lively and added much of interest and value.

The President was authorized to appoint a Committee to confer with the American Gas Association on co-operating with the Appliance Testing Laboratory. The Convention also authorized the President to appoint a Committee to consider the consolidation of the Association with the Canadian Natural Gas Association.

All the papers presented gave evidence of careful thought and painstaking preparation. Space does not permit comment on all and to single out a few would be unfair to the others. These papers are:

"The Function of Salesmanship in the Development of an Industrial Fuel Department," by A. G. Davis, Industrial Fuel Division, Consumers' Gas Co., Toronto, Ont.

"The Use of Water Gas and Coke Oven Gas for the Production of Possible Gasoline Substitutes," by Dr. R. T. Elworthy, Division of Chemistry, Mines Branch, Ottawa, Ont.

"Gas Heating Installations in Vancouver, B. C.," by John Keillor, Engineer Gas Manufacture, British Columbia Electric Railway Co., Ltd., Vancouver, B. C.

J. J. Armstrong
President, Canadian Gas Association

"A Description of the Water Gas Plant at Marysville, Mich.," by Daniel W. Hayes, District Agent, Detroit Edison Co., Port Huron, Mich.

"Indirect Profits," by Frank W. Steere, President, Steere Engineering Co., Detroit, Mich.

"New Methods of Gas Purification," by F. W. Sperr, Jr., Director of Research, Koppers Company Laboratories, Mellon Institute, Pittsburgh, Pa.

"History of the Water Gas Machine," by Thos. W. Stone, Chief Engineer, Western Gas Construction Co., Fort Wayne, Ind.

"A Sales Problem and Its Answer," by R. J. Canniff, Chairman, Commercial Section, American Gas Association, New York, N. Y.

"Recent Extension to Station 'A' Plant, Consumers' Gas Company, Toronto," by C. G. Herring, Chief Draughtsman, Works Department, Consumers' Gas Co., Toronto, Ont.

"Value of New Business Departments," by W. A. Jones, Chairman Executive Committee, Cities Service Gas Co., New York, N. Y.

"Value of Industrial Surveys," by H. W. Hayward, Director of Research Institute, Combustion Utilities Corp., New York, N. Y.

Secretary-Manager Alexander Forward presented the greetings of the American Gas Association and described some of its many activities.

The officers elected are President, J. J. Armstrong of Toronto; 1st vice-president, P. V. Byrnes of Hamilton; 2nd vice-president, F. Elcock of Ottawa; secretary-treasurer, G. W. Allen of Toronto; Executive Committee: J. S. Norris, Arthur Hewitt, J. M. H. Young, C. C. Folger, V. S. McIntyre, A. A. Dion, C. A. Jefferies, and J. J. Humphreys.

Wisconsin Utilities Association

The Commercial Section of this Association will hold its annual convention at Sherwood Forest Hotel, Green Lake, Wis., on Thursday and Friday, Sept. 9 and 10. While the program is not definitely made up at this writing, some of the items planned by Chairman L. M. Williams and Executive Secretary J. N. Cadby can be given. It is hoped to have a speaker on the problems between gas companies and plumbers. The Chairman of the Commercial Section of the American Gas Association, R. J. Canniff, is to describe the national sales plan. Arrangements are being made for a talk on store and window display and also on Utility merchandising advertising. The following committees are expected to report at this meeting:

Contractor-Dealer Relation Committee, C. A. Dow, Chairman; Gas Merchandising Committee, C. A. Pepper, Chairman; Industrial Gas and House Heating Committee, Mr. Schuettes, Chairman; Home Service Committee, Mrs. Katherine Delaney, Chairman.

The entertainment features are not being neglected. On Thursday evening there will be a dinner, dance and special entertainment. A golf tournament will be held on Friday afternoon. The annual banquet will be held Friday evening, the speaker is yet to be selected. Following the banquet, dancing will be in order.

What the Photographer Saw the Day the Pennsylvania Gas Association Held Its First Annual Outing Since the World War. The Day of the Fray Was June 24; the Place Was the Pomeroy Country Club, Near Reading, Pa. More Than 100 Attended.

Entertainment is also being provided for the ladies. A boat trip around the lake is planned for Thursday afternoon. Cards, golfing, swimming and walking will take up much of their time.

All business sessions will be held in the pavilion on the lake shore. The hotel and grounds provide an ideal location for a convention and it is expected everyone attending will enjoy the convention in every way.

The following committees and chairmen were recently appointed by Chairman George E. Wagner of the Gas Section of this Association and approved by the Executive Committee: Coke Committee with A. F. Davey of the Wisconsin Public Service Association as Chairman; Committee on Bituminous Coal for Water Gas Manufacture with Carl Hume of the Wisconsin Power & Light Co. as Chairman; Committee on Dehydration of Gas, Louis Stein of Northern States Power Co., Chairman; Committee on Industrial Gas & House Heating, A. A. Schuetz of Milwaukee Gas Light Co., Chairman; Distribution Committee (Meters, High Pressure Distribution, etc.), W. H. Keman of Milwaukee Gas Light Co., Chairman; Committee on Gas Fellowship, S. B. Sherman of Wisconsin Gas & Electric Co., Chairman.

Dr. GILBERT E. SEIL, formerly in charge of the Koppers Company Research Laboratory at the Seaboard By-Product Coke Plant, Jersey City, N. J., has become associated with E. J. Lavino and Company, Philadelphia, Pa., as technical director. Dr. Seil has had a very wide experience in the Chemical Industry, as Chemical Director of The Metal & Thermit Corp., as a Fellow at Mellon Institute and as Research Chemist for the Koppers Co.

Changes and Additions In List of Exhibitors

SINCE the publication of the list of Exhibitors in the July MONTHLY, the following changes have been made in booth allotments:

A-B Stove Company 410
Eriez Stove & Mfg. Co. 306
Remington Typewriter Co. 506, 507
Ohio Foundry & Mfg. Co. 513
Ruud Mfg. Co. 308
Walker & Pratt Mfg. Co. 303
Detroit Stove Works 404

and additional exhibitors have been allotted space as follows:

Parker-Russell Mining & Mfg. Co., The, Newton, Iowa 145
B. Nicoll & Co., Inc., New York, N. Y. 166
Barber-Greene Co., Aurora, Ill. 54
S. B. Sexton Stove & Mfg. Co., Baltimore, Md. 309
National Lead Co., New York, N. Y. 627
C. W. Hunt Company, Inc., West New Brighton, S. I., N. Y. 628
B. F. Sturtevant Co., Boston, Mass. 630
Walsh Fire Clay Products Co., St. Louis, Mo. 631
Chicago Bridge & Iron Works, Chicago, Ill. 639
Victaulic Company, New York, N. Y. 162
Ajax Brass & Iron Co., West New York, N. J. 640
Neptune Meter Co., New York, N. Y. 311
L. G. Mueller Furnace Co., Milwaukee, Wis. 608
Ohio State Stove & Mfg. Co., Columbus, Ohio 621
Detroit Vapor Stove Co., Detroit, Mich. 625
Alexander Milburn Co., Baltimore, Md. 626
Hotstream Heater Co., Cleveland, Ohio 629
Cleveland Trencher Co., Euclid, Ohio 636, 637, 638
Patrol Valve Co., Cleveland, Ohio . 642
Crown Stove Works, Chicago, Ill. . 646
U. S. Tool Company, Ampere, N. J. 649

Wasting More Than a Million a Year

WHAT is the annual financial loss in the United States owing to smoke and its effects? Gordon D. Rowe, chief smoke inspector of Cincinnati, Ohio, places the sum at $1,870,000,000. This is enough money, he says, to build a twelve-inch reënforced concrete road fifty feet wide from New York to Los Angeles, and bisect it with another from Chicago to New Orleans.

In recommending efforts to control smoke, Mr. Rowe says it is a crime against coming generations to burn bituminous coal in the raw state. There are only two ways to burn it economically and smokelessly: pulverize or carbonize. He believes that when the real market value of gas and its by-products is correctly understood, the prodigious daily waste of our valuable natural resources will stop.

Gas Better Than Oil

(Continued from page 475)

comparatively light in weight, stand on supports made up from angle iron. This means that furnace changes can be quickly made avoiding delays. The gas burning equipment is supplied with high pressure gas which inspirates from the atmosphere the proper amount of air for complete combustion through a single valve control. This system gives easy and positive control of the rate of production. It also gives uniformity of heating over a large range of production without wasting the gas.

Drilling Employees in the Prone Pressure Method of Resuscitation Is an Important Part of Accident Prevention.

The Work of the Service Bureau

Unique Organization Ideal Is to Render Finest Kind of Service to All Customers

By J. GAMES
Western United Gas & Electric Company

THE Service Bureau was created in keeping with the company's policy to render to its customers the finest kind of service. It is the only thing of its kind in the State—perhaps in the United States.

We realize that we, as a company, are in business for one prime purpose—to make money. This should always give us our incentive for rendering the finest kind of service for there is no ulterior motive nor any altruistic purpose.

The whole question is one of buying and selling. You cannot sell a man more than he wants to buy from you. If he is favorable towards your company, he will be willing to patronize you to the extent of his entire requirements. But a dissatisfied customer begrudges every dollar of revenue which he gives us and constantly looks forward to an opportunity when he can thwart some plan which may mean much to the company's expansion.

Success, therefore, depends largely on our ability to acquire the customers' good will. As a learned Judge recently said, "Good will is the disposition of a customer to return to a place where he has been fairly treated." Now, all fair treatment springs from an appreciation of a customer's patronage and is outwardly expressed by that one, oft-repeated word—service.

High class service is the outward expression of appreciation for a customer's business. The more you think of it the more this fact will impress you. Our service is our "thank you" to our customers for the dollars which they give us. What a wonderful thing if our employees could serve our customers so that each piece of work would say—"This will show you how much we appreciate your business."

And so the Service Bureau is concerned with the improvement of service. The improvements themselves are, of course, made by the operating department. Our function is, by frequent inspections, to show what the condition of service is in each community, to show how it compares with the condition found during previous inspections and to point out what work is necessary to bring the standard to the point which we desire.

The methods we use are patterned after those employed by beginners of the Illinois Commerce Commission. We have summary sheets used in connection with our inspections. One is for gas service—the other for electric.

The unique thing about these sheets is that they set forth the truest definition of service that was perhaps ever written. Take the sheet marked gas service grade, for example. It answers the question, "What is a customer who pays us a bill for gas service entitled to?"

Pressure—First and most important of all, he is entitled to good pressure at all hours sufficient to give him an uninterrupted supply of gas in such quantities as will fully meet his requirements.

Heating Value—He is also entitled to

a gas of constant heating value, because he is paying for a heating service and if the heat content varies, the effectiveness of his appliances will become impaired.

Handling Complaints—Should he have occasion to request attention, his complaints should be handled promptly, efficiently and with courtesy.

Meter Testing—Because his bill is determined by his meter, he is entitled to have it tested periodically to be sure it is registering correctly just as a railroad man's watch is inspected to know that it is showing the correct time.

Purity—Obviously, the gas should be uncontaminated and otherwise free from undesirable elements.

Customer's Attitude—Here we have a reflection of our dealings with customers. They are entitled not only to every courtesy, but should be addressed by name so that service will become a personal service and each one will believe himself receiving special attention.

Construction and Maintenance—Our customers insist on the assurance that equipment with which they are being served should be properly maintained to render service without impairment and without hazard.

Adequacy of Capacity—Another assurance to the customer is that we have plenty of generating capacity, mains and services to give him all the gas he wants at any time he wants it.

Provision for Emergency—That we have insured him against interruptions by standby equipment, two way sources of supply, and so on.

Adjustment of Bills—Our customer is entitled to have his bill adjusted by a refund whenever a test of his meter shows that the latter is registering over two per cent fast.

Billing—Our service includes a bill, accurate and correctly made out and rendered to him every 30 days.

Extension Policy—Every resident of a community served by us is a potential customer. When one applies to us for service, he is entitled to prompt attention. This is especially important because it is hard to overcome the ill-feeling of a customer whose enmity is incurred at the outset of his dealings with us.

Furnishing New Service—This is concerned with promptness in furnishing new service where main extensions are not necessary.

You will note then that our service investigation includes an analysis of each item of service. Time is too short to show how we inspect each one. Pressure conditions, for example, we determine by charts taken at different points on the distribution system of a town. Obviously, if these are not sufficient charts, we cannot form a good impression of service conditions. It is, therefore, not possible to receive the best grade of service unless there are full and complete records to show actual conditions.

Customers' attitude we determine by interviewing public officials and prominent citizens. Our inspector is personally acquainted with the mayors and prominent citizens in most of our towns and it is my opinion that this item is one of the most valuable parts of his work.

Suffice it to say that when the inspection is completed the town is graded so as to reflect service conditions in order to show whether or not it has improved and how much. The final grade is determined from different weights given each item. Thus, pressure has a weight of 30 points which is equivalent to almost one-third of all items which make up the service grade.

As to the advantages of grading, the plan provides a concrete, brief method of showing in a few figures what an engineer could not show in a voluminous report. It shows at a glance what particular features are satisfactory and the extent to which others are not satisfactory.

Before the report is issued, we go over it thoroughly with the district manager. We show what we found wrong

(Continued on page 498)

ACCOUNTING SECTION
DEWITT CLINTON, Chairman ALBERT L. TOSSELL, Vice-Chairman
H. W. HARTMAN, Secretary

Keeping Both Eyes on the Meter

Complete Record System Facilitates Service to the Customer and Prevents Costly Errors

By I. R. JONES
Alabama Power Company

TO render prompt and adequate service as soon as practicable after an application has been properly completed should be the aim of every well organized electric and gas utility. Delay in extending service to a waiting customer not only results in a loss of revenue to the utility, but, what is just as important, it usually means a dissatisfied customer. In fact, such delay, if not justifiable, might serve to convert into a feeling of indifference or even hostility toward the company any good-will created by satisfactory attention to an application for service.

Immediately the application for service has been completed, an electric or gas meter order should be prepared. The meter order is intended as an authorization to the meter shop to set or connect the meter necessary to record the amount of electricity or gas used by the customer. It is intended also as a formal advice to the accounting department of the granting of the application and of the preparations being made to extend service.

When used in this manner, the meter order reduces the possibility of a customer being connected and receiving free service because of lack of record of the transaction in the accounting department. As a further precaution against failure to bill a customer for service, the meter order should be utilized as a request to prepare the addressograph plate bearing the name and address of the customer and the related route and account number.

Order forms suitable for all the operations incident to setting or connecting and removing or disconnecting electric and gas meters are submitted as Exhibits "A" and "B" respectively.

ACCOUNTANT'S COPY

GAS METER ORDER SET ☐ REMOVE ☐ Nº 6953

DATE ISSUED | ISSUED BY | FILLED BY | DATE

NAME | TOWN
ADDRESS | ROUTE
PRE-PAY OR STRAIGHT | RESIDENCE COMMERCIAL | A/C
DEPOSIT $ | RECT. NO. | DATE APPL. | APPL. COMPL.

CONNECTED LOAD — RANGES (NO. | TYPE | MAKE | SIZE | CU. FEET CONSD P) — REMARKS:
WATER HEATERS (NO. | TYPE | MAKE | SIZE)
ROOM HEATERS (NO | TYPE | MAKE | SIZE)
HOT PLATES (NO | TYPE | MAKE | SIZE)
OTHER APPLIANCES
TOTAL CONNECTED LOAD

ARE WATER HEATERS VENTED?
WHERE DOES VENT PIPE END?

ANSWER THE ABOVE FOR EACH WATER HEATER

METER RECORD (CO. NO. | METER NO. | MAKE | P-H-DIAL | SIZE | READING | DATE | FEED FROM SIZE MAIN)
IN
OUT

ENTERED | BY | DATE | ENTERED | BY | DATE

FILE COPY | ADDRESSOGRAPH
METER SET RECORD | METER READERS SHEET
METER REMOVED RECORD | CUSTOMERS LEDGER

Both electric and gas meter orders should be prepared in sets of three, the sets to be numbered consecutively, and bound in books containing twenty-five or fifty sets.

So as to maintain an unbroken series of numbers for each class of orders and thereby facilitate reference, separate books or series of books should be reserved for meter set or connect orders

and for meter remove or disconnect orders.

The several copies of the meter order should be utilized as follows:

The original of the meter order should be sent to the shop, where it would be delivered to the employe delegated to set or connect the meter. On completion of the work specified on the order, the original, with the necessary details noted thereon, would be returned to the office. Following its receipt in the office and comparison with the triplicate, the original would be used in noting on the application for service and record of meter changes such references as are required and in posting the initial meter reading and other details intended for entry on the customers' ledger. Thereafter the original of the meter order should be filed, preferably in alphabetical order according to the name of the customer.

The duplicate of the meter order should accompany the original to the shop, where the duplicate would be retained in a pending order file until the work specified on the order had been completed. Following the completion of the order, the essential references would be noted on the duplicate, the original forwarded to the office and the duplicate filed. A convenient method of filing the duplicates would be according to meter numbers. Inasmuch as the original meter order is to be filed in alphabetical sequence according to name of customer, and the record of meter changes, to which reference will be made later, affords a consecutive record according to meter order numbers, it would be a comparatively simple matter to trace any particular meter order either by the name of the customer, by the serial number of the meter order, or by the meter identification number.

The triplicate of the meter order is merely a plain sheet bearing the same consecutive numbers as the original and duplicate and containing the same information when issued. It is intended to be retained in the office in a pending order file as a check on the prompt return of the original, when executed. The triplicate may be destroyed on return of the original, or it may be turned over to the merchandise department on the assumption that each customer connected would be interested in the purchase of electric or gas appliances.

The completion of the several references at the foot of the meter orders described above would serve to indicate:

1. That the order has been listed on the meters set (or removed) record to be maintained in the office as a record of orders issued and completed or pending.
2. That an addressograph plate has been prepared showing name and address of customer and the route and account number assigned to the application.
3. That a meter reader's sheet has been prepared with an addressograph impression of name and address of customer and route and account number.
4. That a customer's ledger sheet has been headed with the addressograph impression of name and address and route and account number.

Thus the pending order file, record of meter changes, addressograph plate, meter reader's sheet and customer's ledger sheet would automatically direct attention to any meter order that might be accidentally lost or mislaid, either during or after execution.

Sometimes a request to discontinue service is made by a customer in person, while in other instances it is received over the telephone. Although some utilities require that a request for discontinuance of service shall be prepared and signed by the customer, a verbal request is often considered sufficient authority for the issuance of an order to remove or disconnect the meter, and to obtain the meter reading necessary for preparation of a final bill. The order forms previously suggested for use in connection with setting or connecting meters are equally suitable where service is discontinued.

The office procedure relating to requests for discontinuance of service should include the following operations:

1. Issuance of meter remove or disconnect order.

2. Entry of order on record of meter changes.
3. Removal of addressograph plate from current rack.
4. Removal of meter reader's sheet from current binder.
5. Preparation and collection of final bill against customer.
6. Completion of references on application for service card and transfer to closed accounts section of file.
7. Completion of customer's ledger sheet and transfer to closed accounts section of ledger.
8. Adjustment of customer's deposit records, if affected.

RECORD OF METER CHANGES

A permanent loose-leaf record of meters set and connected and meters removed or disconnected serves a double purpose, affording as it does an accounting department control over meter orders issued and a convenient cross-reference both by meter order number and according to date of issue.

Taking into consideration the size and type of office under consideration, the following details might be included in the record of meter changes without unduly burdening the office staff:

Date (of Meter Order)
Meter Order Number
Name (of Customer)
Address (of Customer)
Route
Account Number
Date Order Completed
Reading (of Meter)
Company Number (of Meter)
Manufacturer's Number (of Meter)
Remarks.

Record sheets of different colors should be used for entering electric orders and gas orders, otherwise a complete separation of the records of these two departments would not be possible. Similarly, separate record sheets should be started each month for meter set or connect orders and for meter removed or disconnect orders. Incidentally, it is important that the orders should be listed on the record of meter changes in numerical sequence and that all numbers should be accounted for.

When the meter orders are executed and returned to the office, the additional information appearing on the completed orders would be entered on the record of meter changes. Thus, if complete information is not entered on the record, it would indicate that the related order had not been returned to the office.

At this point it may be mentioned that, in the event of a meter order issued in one month not being completed until the following month, a notation would be made opposite the first entry that the order had been carried forward into the following month's record, where it would again be listed in sequence and completed in the usual manner.

The record of meter changes is available also as a basis for the statistics required at the end of each month in regard to number of meters set and removed during the month and meters in service at the beginning and end of the month.

METER PROPERTY RECORD

Because of the substantial sums that utilities are obliged to invest in electric and gas meter equipment and because of the requirements in regard to tests and repairs and adjustments, a complete record should be maintained for each meter, covering its history from the time of acquisition until retired from service.

A card form of meter property record is often used, but sometimes an envelope form is preferred. While the envelope form results in a somewhat bulky record because of the meter change orders, repair orders and test reports that would ordinarily be filed therein, it serves to eliminate the necessity for the separate file that would otherwise be required for preservation of the related orders and reports.

The most important details for which provision should be made on the meter property record are as follows:

1. Description of meter, including name of manufacturer, type, capacity, etc.
2. Manufacturer's serial number.
3. Utility's identification number.
4. When and how acquired.
5. Cost of meter.

6. Record of meter movements while in service.
7. Record of tests.
8. Record of repairs and adjustments.
9. Final disposition of meter.

By filing the cards or envelopes in rotation, according to the utility's identification number, there is available at all times a complete inventory or index of the meters in service and on hand in the meter shop. As a check on the correctness of the postings to the meter property record in respect of location of meters, these details should be compared periodically with the entries on the customers' ledger indicating the meters in service at each location.

REGARDING REPRINTS

ONCE AGAIN we wish to remind our contributors and readers that reprints of any material published in the American Gas Association MONTHLY may be obtained in accordance with the following scale:

100 copies, 1 page	$2.00
Additional 100's	.40
100 copies, 2 pages	3.00
Additional 100's	.40
100 copies, 4 pages	7.00
Additional 100's	.75
100 copies, 8 pages	10.75
Additional 100's	1.05

These copies cover only actual printing costs. Reprints can be made according to this scale only if orders are received while material is still in type. Prompt action is, therefore, essential. Under any circumstances, permission of the author must be obtained before reprints can be made.

Work of the Service Bureau

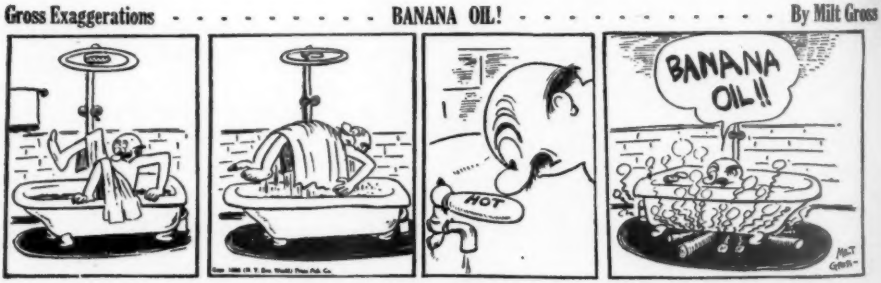
(Continued from page 494)

and he gives us the remedies to correct the trouble. These are then submitted together with the report to the general office. Steps are thereafter taken to correct the troubles which the report shows are necessary to make conditions as we desire them.

Besides the regular inspections, the service bureau makes a daily review of complaints. As they come in, we inspect each one to be sure it was handled without delay. We also watch for indications of poor work, faulty records and similar things which would impair the quality of service. Whenever work does not seem up to the standard, we inform the district manager who takes the proper steps to have it corrected.

Complaints are a reliable barometer of service conditions and, for this reason, much work has been done to handle them promptly and efficiently and to record them promptly.

We also have a plan now in operation in most places whereby customers are called back the day after the complaint was completed. It provides that someone call the customer and inquire if the particular service which he requested is now meeting with his entire satisfaction. This is done in a pleasant and courteous way. In each case, we try to inform the customer that it is a pleasure to do this for him and should there be something in the future which would not be satisfactory to be sure and let us know.



Milt Gross Considers the Hot Water Question

PUBLICITY AND ADVERTISING SECTION
F. L. BLANCHARD, Chairman A. W. HAWKS, Jr., Vice-Chairman
CHARLES W. PERSON, Secretary

Why a Public Utility Advertises

An Answer to the Inference That It Is "Just to Help the Newspaper Along"

By HARRY MERRILL HITCHCOCK
Columbia Gas and Electric Company

NOT so long ago a casual caller at my office remarked upon our generosity to the local newspapers and other publications. Naturally, I inquired his meaning—not having been aware of any particular generosity on our part. He said he referred to the liberal way we advertised in these periodicals, "just to help them along, because, of course, you don't need to advertise—everybody has to do business with you."

Well, I hope that gentleman had a somewhat different view of our reasons for advertising before he left my office, but none the less, he succeeded in starting me upon the train of thought. For it occurred to me that it is part of our duty to the community which we serve, and our duty to ourselves, to carry our explanations of our plans, organizations, and purposes, to the point where we should even explain our explanations. Why, then, does a public utility advertise?

What is a public utility? The first step in a legal definition would be that it is a corporation organized for purposes of profit. Now there is nothing either startling or shameful in that, provided the profit is fairly earned.

A Utility Advertises for Business—the Same as Any Other Organization.

But as long as we have lawyers who resign posts of honor on the bench to engage in more lucrative practice at the bar, as long as we have authors, poets, and painters who are entirely willing to accept good coin of the commonwealth for the products of their hearts and brains, so long, I suspect, we will also have public utility companies which desire to justify their operations in the eyes of their stockholders by substantial dividends, the stockholders who will refuse to purchase public utility securities unless substantial dividends are forthcoming. It might be suggested, therefore, that a public utility company advertises not out of any love for the newspapers, but because it hopes to increase its profitable business thereby.

But that is not all the story. A public utility company is also a company which has to a very large extent deliberately foregone all opportunities for large speculative profits—has, in fact, accepted close supervision and legal restriction of its profits—to content itself with the

more modest but in the long run more assured returns resulting from service to an entire community of a peculiarly broad, varied, and intimate character.

It seems to me exceedingly pertinent to this discussion that there is no commercial organization which comes into as close and intimate touch with the daily life of practically all individual members of the community as the public utility company.

In our own case, for example, some 150,000 Cincinnati households receive a bill from us for services rendered every month the year round, and those bills are rendered for services which touch the comfort and well-being of every member of each of those 150,000 families every day in the year. Companies in other fields see their customers every once in a while; we live with ours.

Now, that kind of service is the kind that it is human nature, very soon, to take for granted, and every public utility man soon learns, as one of the conditions of his job, that it *is* taken for granted—until something goes wrong. The service may be perfect 364 days out of the year, and nobody seems to care; but if it goes wrong one hour of one day, "the service is simply terrible."

Perhaps it is fair to add to our definition that a public utility is a company from which the public as a whole demands an extremely high standard of performance, perhaps a higher standard than it demands of almost any other institution.

There is another reason for this exacting attitude toward the public utility which is also pertinent to our subject, and which appeared in my friend's remark that "everybody has to do business with you."

There is a phrase, which, in my opinion, has had much wider circulation in the country than it deserves, which describes the public utility as a "natural monopoly." Now, if that phrase means anything, it means an institution which, by the laws of nature, can compel people to accept its services whether they want to or not, and can also compel them to pay for those services whatever it sees fit unless prevented by law.

There is no such thing. There never was and never will be a natural monopoly in this sense, because there is no service offered by any commercial organization which people cannot get along without if they want to, or for which they cannot, if pressed, find a fairly satisfactory substitute.

There are still plenty of people living in Cincinnati who are leading presumably happy, useful, and from their point of view, comfortable lives without either electric light or gas in their homes, and plenty of other people who get along without the use of the telephone; and plenty of other people who get along splendidly without ever riding in the street cars. And there are even more people who have grown into the habit of regarding some or all these things as indispensable, who would be very much surprised to find, if they had to, how easily, on the whole, they could get along without them.

What the public utility possesses is not a "natural monopoly," but a great competitive advantage. But this immense competitive advantage has, like everything else, its compensating disadvantages, or perhaps I should say its limiting factors. The chief of these is the need of a very much higher capital investment, in proportion to the operating cost of service than is required in most other business activities.

It is an entirely practical thing, for example, for a man to start a grocery store on a capital of perhaps $25,000, and if he has the business ability, to do on that capital a business of $100,000 in a single year. The result of this is that business in such fields is commonly closely competitive.

But a public utility company, to collect $100,000 in a single year for services rendered, must first have invested in equipment, not $25,000 but nearer $500,-

000. Now this enormous capital investment constitutes a very serious problem, and one which makes the organization of more than one public utility of the same kind in one community an almost certainly unprofitable enterprise. If you had two grocery stores in one block, you would still have a total capital investment amounting to not more than perhaps one-third of the total business—the total amount of service—which these two stores could render. But with two public utility companies offering identical service in one community, you would have a total investment perhaps ten times the total amount of the service charges which that community should be expected to pay. Obviously it could not be done.

But to entrust to a single commercial organization the immense competitive advantage about which we have been talking, is to put a great strain upon human nature. You may say in theory, that intelligent self-interest will prevent a public utility company from overplaying its hand—from pressing its advantages farther than it is right or wise to do—but very few people will believe it.

For that matter, we might as well admit frankly that the past history of many, if not most, public utility companies has given them good grounds for this suspicion. There have been plenty of times when such companies in the past have fallen into the grave mistake of thinking they had everything their own way—and they have invariably paid dearly for it; some of them are still paying. Most of them have learned their lesson today, but even after they have learned their lesson, they find that their customers have long memories.

The result has been the present universal practice of political regulation of the public utilities. This policy was instituted primarily for the protection of the individual customer; but the public utilities have come to realize that in many instances it has also operated for their benefit, if only in saving them from costly mistakes.

There you have, for our purposes, a picture of a public utility. You have a company organized for the production and sale of certain services, whose stake in the community as a whole, as evidenced by its capital investment as well as by the nature of its business, is naturally and inevitably greater and more broadly based than that of any other single commercial organization.

You have an organization which, like any other, has the duty and the necessity, for the sake of both its customers and its stockholders, of maintaining its own integrity as a commercially profitable enterprise, in which capital may be safely invested. You have an organization which is in closer, more constant and more intimate touch with the majority of the citizens of the community than any other; and whose occasional shortcomings are consequently thrown into higher relief than those of any other—and are apt, because of an exaggerated idea of his dependence upon it, to be more keenly resented by the individual citizen than those of any other.

Finally, you have an organization which, more than any other, has to carry on all its operations under the watchful eye of the Government, which unfortunately usually means the eye of an individual accustomed to look at things from a political rather than a business point of view.

Now, what can advertising do for this kind of institution? What is advertising? Somebody has said it is the business of making people *want* something they *need*. In other words, advertising is salesmanship. The ultimate object of the advertisement may be skilfully concealed or frankly avowed, but unless it helps to sell something, either directly or by setting up in the reader's mind an impression that makes him definitely more receptive to a personal selling appeal, it is not good advertising. The next question, then, is: What has the public utility to sell?

The Union Gas & Electric Company

is no more selling gas and electricity than the Cincinnati Steel Railway Company is selling street cars or the Cincinnati & Suburban Bell Telephone Company is selling telephones. The telephone company is selling communication service; the street car lines are selling transportation service; and we are selling light, and heat, and power service, using gas and electricity merely as the means, the vehicles of that service.

What our customers are interested in is the result, not the means. It is our job to accomplish the results desired, at as low a cost as possible consonant with satisfaction—and satisfaction requires a thoroughly efficient, well-equipped organization—which means a well-paid organization. The rates charged per unit of service are of very little importance compared with the result as a whole.

Now, how is this result best accomplished? To whom does the public utility sell? Obviously, to everybody; and the best results are achieved by increasing volume of business to everybody, by convincing everybody that our service is of benefit to everybody.

Isn't this the job for advertising—to make more profits for the company, while actually making public utility service better and cheaper for the entire community?

Well, how do we go about it? It must be obvious that the man who is at all resentful or suspicious in his attitude toward the company is not going to be an easy customer to whom to sell.

There have been altogether too many cases in public utility operation where the relations of the company to the community got into a vicious circle in which, the more suspicious and resentful the community's attitude became, the harder it was for the company to give good service at a reasonable cost; and the poorer the service became, of course the more resentful the community grew.

Speaking as a public utility man, I want to say that when that sort of thing happens, it is a hundred to one shot that the company itself is most at fault. The one way to break that vicious circle is to come right out frankly and ask in good faith for a new deal all round and set up instead of the vicious circle a virtuous circle, if I might call it such, in which a constantly increasing measure of public confidence in the utility makes the utility's selling job progressively easier and thereby enables it to give constantly cheaper and better service.

In the hope of accomplishing this, some public utility companies engage quite largely in what is usually called institutional or good-will advertising—that is, advertising that is merely informative regarding the company's operations and aspirations, and contains no direct selling message.

Now with all respect to the companies that have adopted this method and with no desire to impugn their sincerity, we of Columbia System do not agree with them. We are just as anxious to merit and to win popular respect and confidence as they are, but we attack this problem from a somewhat different angle based on two guiding principles, the first of which is that, as I have already said, every advertisement ought to sell something; and the second is that you get a great deal farther with any man by showing him, than you can by merely telling him.

We have, you see, a great many things to sell in the wide and varied applications of our service. Some of the applications of our service are of direct interest to everybody, some of them of direct interest to only a very few. There are only a few hundred people in the community, for example, who are directly interested in the use of electric trucks. But in the first place, we feel it is our duty to let everybody know about our interest in electric trucks and the reasons for that interest, that knowing about this detail of our operations will give all our customers a clearer conception of the service we are trying to render to the whole community. And in the second place, you

(Continued on page 508)

As Home Service Sees the Oven Regulator

Three Cases that Prove the Heat Regulator Can Be Sold

By MISS INA B. ROWE
Home Service Director, Central Hudson Gas & Electric Co.

THERE are many ways in which the regulator assists the housewife. In cooking she follows certain recipes. These call for certain proportions of ingredients plus heat and for very, very many foods the heat is more important than the materials used. Take, for instance, a broiled steak. The recipe is this: One porter-house steak, plus salt, plus heat. The steak may cost $.65 a pound, be the tenderest cut of the ribs, and be perfect in every other respect. However, in the state it comes from the butcher it is not food, and heat must be added. If the right heat is not added, the steak will be overcooked, undercooked, or toughened.

Take another example: Angel food. An angel food consists chiefly of sugar, eggs and flour. But sugar, eggs and flour do not make an angel cake until heat is added. If too much heat is added, the air which has been beaten into the eggs will expand so fast that it will burst the cell wall. The cake will come up very high and will just as suddenly collapse, making it practically unfit to eat. Another thing that will happen is that the eggs will be "hard boiled" and very tough. The result is a poor angel food with time and money wasted. If we add to the eggs, flour and sugar the right amount of heat to expand the air slightly, and at the same time cook the eggs without

The New Haven Gas Light Company Proclaims the Blessings of Gas, and the Oven Regulator, at a Recent Master Plumbers' Exhibit

toughening them, we can make an angel food with almost perfect accuracy.

Take another example, Boston baked beans: Baked beans are best prepared with many hours of slow cooking. After the housewife puts them into her oven and shuts the door and turns the fire very low, the heat accumulates in the oven and causes the temperature of the oven to rise rapidly. She must then turn the oven lower or turn it out and relight it, or open the oven door in order to allow the oven to cool down to the point where the beans bake properly. She cannot go away and forget the beans with the sure knowledge that they will take care of themselves. They will not do so. They will be overcooked.

Let us see what a regulator will do to help the housewife in these predicaments. When cooking an inch thick steak, she can turn the wheel to the point which reads "broil," put the steak in, and after five minutes turn it, and after another five minutes reduce the heat, and after another three minutes slip it on a steak platter and with the certain knowledge that it is cooked properly.

In making angel food the housewife follows a recipe which gives certain materials plus 325° of heat for one hour. When she puts her angel food in the oven, she sets the wheel at 325°, closes the oven door and goes off and leaves it. She may work in another part of the house, run down to the neighborhood store, or continue with other kitchen work. She knows that the regulator is on the job, controlling the heat automatically much more accurately than she can possibly do by turning the cock by hand. She gets two benefits: First, a failure-proof product, and second, the saving of her time and attention.

The same is true in the baking of beans. The food is left for a long period of time and the heat of the oven is kept evenly at the temperature which is selected. An oven heat control will hold an even temperature for hours or days without five degrees of variation.

In talking with the women, we have three very important things to emphasize and their importance is in the following order:

1. Success is assured by adding to the measured raw ingredients, measured heat. It eliminates guesswork.

2. The heat is regulated mechanically and the housewife is at liberty to do other things.

3. If she wishes to leave the house for several hours, she may put an entire meal in the oven, set the temperature to correspond to the time that she is to be absent and come back to find her food thoroughly cooked and ready for dishing up.

4. During the canning season she may fill the cans with cold fruit, shut the door on them in the oven and bake them done instead of boiling them on a surface burner or in a huge boiler full of boiling water.

5. Practically all modern recipes for baked food call for oven regulators.

6. Oven regulation can be used on all foods that require oven cooking and a great many foods which are commonly cooked on top of the stove.

GAS - The Silent Partner in Industry
The Heat Treating of Metals
In the annealing, tempering and hardening of metals, gas is universally recognized as the best fuel from every standpoint known to the operators of furnaces and ovens.
GAS can be accurately and automatically controlled.
GAS responds instantly and increases production capacity.
GAS makes possible a perfect control of furnace atmosphere, so necessary for the elimination of scale.
GAS is a clean fuel and is extremely flexible to all demands.
GAS improves working conditions and lowers equipment maintenance costs.
GAS, in the final analysis, is responsible for the lowest total production cost.
Such a fuel is applicable to other branches of industries requiring a clean, economical and easily controllable fuel.
The engineers of this company are always available for consultation on any industrial heating operation, just one of many services supplied by the
Equitable Gas Company
"Live In and Expand Your Business In Greater Pittsburgh"

Newspaper Copy Used to Tell the Advantages of Gas in Industry.

Advertising Program to Be Continued

Industrial Gas Campaign in National Trade and Class Publications Extended to December

THE 1926 advertising program of the Industrial Gas Section, which has been conducted in 27 national trade and class publications during the past six months, will be continued during the rest of the year. The same publications will be used as media, and the same type of copy will be continued, as results from the first six months have proved its success.

Since the first insertion in March, more than 200 inquiries have been received at Association Headquarters concerning the use of fuel for industrial purposes. These inquiries were made directly as a result of the advertisements. In all probability hundreds of other inquiries have been received by local gas companies as a result of the campaign.

The Association, in outlining the program, made provision to send the requests received at Headquarters to the local gas companies concerned, after having sent the prospect a copy of the booklet, "Gas —the Ideal Factory Fuel."

This booklet, besides being sent to those making direct inquiry to the Association, has been furnished to gas companies for use in soliciting industrial business. More than 7,000 copies have already been distributed, and orders for additional copies are being filled every day.

As the program is designed to be of benefit to the individual gas company, the plan to tie-in with the national campaign by using mats in the local newspapers has proved especially successful.

Mats of the advertisements appearing in the national magazines were furnished at a nominal cost. The wording on these was changed slightly, and allowed for the insertion of the local company's name. The theory in back of this plan was as follows:

The manufacturer saw the advertisement of the Association in his trade paper; he then saw the advertisement of the local gas company *over its name* and immediately tied the two together. By the time he had asked information from the local gas company, the Association had sent him the copy of the booklet in response to his request, and he was ready to be sold.

The list of magazines carrying the industrial advertising is: Chemical and Metallurgical Engineering: Electrical World; American Restaurant; Baker's Weekly; Confectioner's Journal; National Provisioner; The Spice Mill; Tea and Coffee Trade Journal; Glass Industry; Journal of the American Ceramic Society; American Machinist; Forging, Stamping, Heat Treating; Foundry; Fuels and Furnaces; Iron Trade Review; Transactions of American Society for Steel Treating; Editor and Publisher; Industrial Gas; Industrial Power; Manufacturer's Record; Iron Age; and The Canner. The following college publications: Illinois Technograph, University of Illinois; Tech Engineering News, Mass. Institute of Technology; The Tartan, Carnegie Institute of Technology; Michigan Technic, University of Michigan; News Letter, Johns Hopkins University; Ohio State Engineer, Ohio State University.

What Education is Doing for the Industry

(Continued from page 456)

have the responsibility of seeing, as far as is possible for them, that the customer is continuously using to his own best advantage and complete satisfaction the gas he buys and the appliances he employs.

The gas industry is thoroughly alive to the consequent need for education on the commercial side. But we have also to recognize that for the reason just given the whole nature of the gas salesman's task is semi-technical.

In speaking of "a bigger scheme in course of evolution" I must refer to one vital part of any such scheme which has in the gas industry already been largely developed. A scientific industry has the right to expect assistance from the organized scientific education of universities and the co-operation of these centers in industrial research. True, this should always remain a secondary purpose of our universities, where nothing, let us hope, will be permitted to upset the doctrine of "Education for Life before Education for any particular vocation in life;" where the humanities, in fact, will always take precedence of science. But there can at the same time be no two opinions as to the value of such a Chair as that of the Livesey Professor of Coal Gas and Fuel Industries at Leeds University.

I may perhaps quote Professor Arthur Smithells, late Professor of Chemistry at Leeds, and now Director of Salters' Institute of Industrial Chemistry, who wrote:

"The gas industry has afforded a notable example to the industrial world by its support of organised research, conducted under the auspices of the Institution of gas engineers. At its own instance, unsupported and unhampered by the State, it has shown the way to link up a great industry with a university in fruitful and harmonious co-operation, without any sacrifice on either side of rights or duties."

In conclusion, let me repeat my firm belief, based on practical experience for many years, that the education of employees on sound lines, when not merely countenanced but positively encouraged by employers, does definitely stimulate good-will in industry. It is not merely that the men are made better craftsmen, more efficient tools. It is not even merely that you get men of better character and greater sportsmanship. There is always a great deal of vague talk of "a new spirit" in the industrial world—vague and not very helpful so long as we forget that this new spirit must come not only from the heart, vital though that source of it be, but from the head as well. An intelligent and informed body of workmen would better understand the problems of an industrial age. They would see that grievances existed not to be harbored as grievances, but to be removed, and they would know how to set about removing them by approaching employers in the right way, and with the knowledge that these employers cared for the men's advancement and true interests. They realize the better that management has its difficulties and anxieties and risks, as well as its remuneration and profits; that, indeed, employees often have grievances against the employer which arise out of ignorance and misunderstanding and which better education would remove or prevent. And, further, they would inevitably come to recognize more and more clearly the true community of interest between employers and employed, understanding of which is vital to industrial stability and progress. It is only in that way that a useful good-will set upon a sure foundation can arise, and that in the last resort is the best argument —nay, the imperative reason—for education in industry.

Blue Star Plan Well Received

Gas Companies Now Begin Local Operation of Commercial Sections Plan

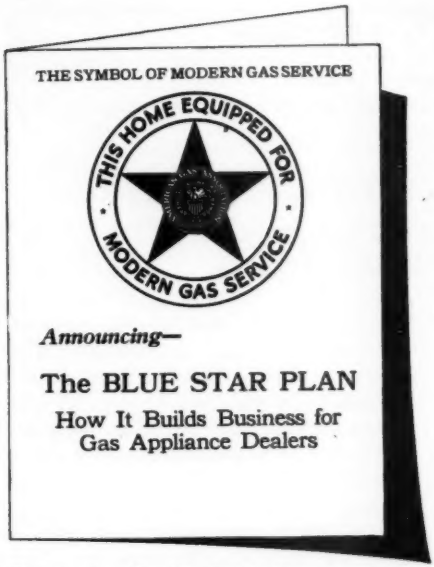
AFTER several field trips by J. W. West, Jr., of Headquarters staff, the Blue Star plan is becoming an accomplished fact in a number of gas company territories.

The program laid out for the smaller cities (which is directly under the leadership of the A. G. A.) is already being undertaken in two sections of the country, including the states of Indiana, Illinois, Pennsylvania, Massachusetts, Rhode Island, Virginia and New Hampshire. Combined with the modified Blue Star plan being used in the larger cities in cooperation with the demonstration houses of the Home Owners' Service Institute, there will be forty to fifty cities operating Blue Star Campaigns this year.

Two of the middle western gas companies who have adopted this program have been utilizing the demonstration home method of sales promotion for some time, and have arranged to continue these as model Blue Star Homes in the future. The value of a demonstration house is shown by the fact that an eastern gas company outside of New York recently had twelve thousand visitors go through its model house in three weeks.

Because most of the companies have asked particularly to include a demonstration of house-heating by gas in the homes, particular attention has been given to the subject of proper house insulation by the Commerical Section, and the co-operation of several manufacturers has been obtained in assisting in the insulation of the Blue Star houses—to the extent of special

A Window Dispaly of the Laclede Gas Light Co., St. Louis, Mo., That Uses the Blue Star Plan As a Motif


THE SYMBOL OF MODERN GAS SERVICE
THIS HOME EQUIPPED FOR MODERN GAS SERVICE
Announcing—
The BLUE STAR PLAN
How It Builds Business for Gas Appliance Dealers

The Dealers' Booklet Explaining the Plan in Detail

terms or local advertising, as well as advice in the house design.

A house heating installation is not a requirement of the Blue Star plan, but such an installation unquestionably has a strong public appeal and, where used, will draw an even larger number of people than otherwise.

The larger-city phase of the plan is progressing under the sponsorship of the Home Owner's Service Institute. Because of the summer vacation season, it was decided at a recent meeting of manufacturers participating in the Home Owner's Institute Plan to open the first of the demonstration houses on September first instead of July first, as originally planned. This delay has enabled both the Institute and the A. G. A. to develop more thoroughly the plans and material for promoting the Blue Star idea in these cities.

Mr. West is also assisting the gas companies in organizing the plumber-dealer activities, securing the co-operation of local builders in erecting the model homes and otherwise assisting in the furtherance of local activities in the light of the practical experience and ideas gathered as he has established the Blue Star plan in various localities.

The interest shown by the gas companies throughout the country generally in the Blue Star plan has been tremendous, and the reception it has received has been so favorable that the original prediction of the sponor of the plan, R. J. Canniff, that this would become a permanent activity of the A. G. A., is becoming an accomplished fact.

Why a Utility Advertises

(Continued from page 502)

will find, when you look into the matter a little, that there is no angle of public utility service, even though its direct application is limited to a very few people, which has not somewhere about it a community value; which is not, in the legal phrase, "affected with a public interest." The electric truck, for instance, is a very important factor in the down-town traffic problem. The use of gas for breadbaking is of direct interest to almost every Cincinnati housewife. And so it goes through the entire range of our services.

We advertise, you see, for the same reason that everybody else advertises—because we have something to sell. But I do not know of any form of advertising which so directly reveals in its very nature that it is, as all advertising should be, of direct benefit both to the buyer and to the seller.

HOME SERVICE LUNCHEON

TO further the effort being made to have all home service directors attend the annual convention of the A. G. A., plans have been made to have a luncheon and round table discussion at the Hotel Shelbourne, Wednesday, Oct. 13, the day home service is presented in the Commercial Section Program. This luncheon will be open to all directors and their assistants.

Those planning the program have asked that all reservations be made through Miss A. Deane Dowell, home service counsellor, A. G. A. Headquarters.

Procedure Control for Bronze Welding

(Continued from page 484)

duce a well tinned surface and good bonding of the metals.

If good bonding of the bronze and iron is noted, proceed with the weld by progressive applications of the flame and the fluxed rod along the line of the joint.

Fumes of zinc oxide will be formed to a certain degree. They should not be inhaled by welder and helper and can be readily avoided. Fumes in excess indicate that too large a proportion of zinc is being burned; the result will be a porous weld (Section C). Observe carefully the progress of tinning the iron; see that the surface of the pipe is fully coated in advance of the weld.

Build up the bronze weld as closely as possible to dimensions specified in Section C.

After approximately one-quarter of the pipe periphery has been welded, the pipe should be rotated about an equivalent distance (approximately 90 deg.) and welding operations continued.

Tacks should be melted out in course of welding the joint. The surfaces beneath should be retinned and when welded together form part of the continuous joint. If welding is interrupted, the end of the previously made weld should be reheated and fluxed so that a continuous bond is assured.

After welding the third quarter of joint surface and turning the pipe to a new position, the fourth quarter of the welding should be stopped at a point approximately 1 in. from the beginning of the welded joint.

The beginning of the welded joint should be preheated for approximately 1 in. with the blowpipe. The entire weld should then be completed by flowing the preheated and prefluxed bronze on to the pipe now well heated and tinned so that a weld uniform in quality and appearance should result. In cold weather slow cooling of the weld is beneficial; cover the weld and adjacent pipe surfaces with suitable non-conducting material.

Do not subject the joint to strain until it has cooled approximately to atmospheric temperature.

(b) Position and Bell Hole Bronze Weld. Cross service mains, change in direction of ditch, or other construction conditions may necessitate making a bronze weld in position above the trench or below ground.

The pipe being suitably aligned, proceed with tacking as above prescribed.

Tinning, weld dimensions, application and welding technique are the same as recommended for rolling welds except that welding should begin on the bottom quarter of the pipe circumference and continue on one side to a corresponding position on the top of the joint (180 deg.). Complete the weld in the same manner on the other side of the joint, the closing-in operation at the top to follow procedure similar to that recommended for a rolling weld.

As in making a rolling weld, best results are obtained and a weld more workmanlike in appearance is assured by welding without interruption.

3. Construction of the Line—In the construction of a bronze welded line laid with cast iron pipe, consideration should be given to the comparative lack of flexibility of the pipe material in lowering the pipe into the ditch, in back-filling, and in providing for expansion and contraction due to temperature changes.

(a) Grading. The bottom of the trench should be graded if necessary to insure a smooth level floor on which the pipe may rest. It should be cleared of

all obstructions so that the welded pipe sections may not be subjected to undue strains. It is desirable to obviate bending of the line as far as possible. Blocking and tamping are suggested to assure permanency of alignment.

(b) Lowering. For lowering into the ditch the six to nine-length (72 to 108-ft.) sections joined by welding, suitable windlasses or chain falls mounted on tripods may be used spaced approximately 25 ft. Those at the ends should support the pipe at the middle of the lengths of pipe. Lower the welded section gradually, evenly and progressively from one end.

(c) Provision for Expansion and Contraction. To compensate to some degree for temperature changes and their effect on the line and provide flexibility to a degree greater than that possessed by the line material, expansion joints or flexible couplings may be used if needed.

Character of the soil, especially with respect to rock formation, depth of trench, method of back-filling, location of the line, with reference to stresses external to the line itself, and number and location of service connections are determining factors in this matter.

(d) Testing and Painting. The completed line or any section thereof should be tested as in Section F. After testing, all welded joints should be painted and burlapped with suitable protective and water-proofing material.

(e) Backfilling. To minimize strains that may be set up in the line due to temperature changes, the welded sections should be covered when contracted. Back-filling should be done in the early morning if possible. Settlement of the fill with possible resulting strains on the welded line will be minimized by thorough tamping.

(F) INSPECTION AND TEST

1. Inspection—(a) The joints should be inspected during construction. This may be performed by a designated individual or by the foreman in charge of construction.

(b) The inspector should have a general knowledge of welding, and be familiar with the recommended procedure and technique for bronze welding cast iron pipe. He should see that they are continuously followed and should be held responsible for welding results as disclosed by test of joints and completed line.

A continuous check inspection should be made during progress of the work by removing (with hammer and chisel) sections of bronze welds made at different times and by various individuals. The deposited metal and pipe surface should be carefully examined for properly fluxed condition and tinned surface respectively. Should such removed weld sections and pipe surfaces appear satisfactory the weld may then be closed up (Section E.). If unsatisfactory, the inspector should require all of the deposited metal to be removed and the joint rewelded. Repeated evidence of unsatisfactory work being done by any welder should require his temporary removal from the line by the inspector and the submission of test pieces (Section A).

2. Testing—The line should preferably be tested in sections in the ditch, but before backfilling. For testing, the sections may be capped with expansion plugs, caulked standard caps properly braced, plugs bronze welded to the line, or other suitable means. The length of test sections should be determined by those in charge.

Testing may be conveniently done with air applied at 1 1/2 times line working pressure with a minimum pressure of 25 lbs. While the pressure is on the line, examine each joint for pin holes and leaks by applying soap water with brush.

If this test reveals pin holes or leaks on the surface of the bronze, a continuity of gas pockets in the deposited bronze is indicated. At the discretion of the inspector these may be closed by peening. Should leakage occur at the edge of the weld between the bronze and cast iron, proper tinning has not been obtained. Such defective sections should be chipped out and rewelded.

Associations Affiliated with A. G. A.

Canadian Gas Association
Date of Affiliation—Mar. 25, 1919.
Pres.—J. J. Armstrong, Consumers Gas Co., Toronto, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., 1927.

Empire State Gas and Electric Association
Date of Affiliation—Nov. 21, 1919.
Pres.—E. C. Scobell, Rochester Gas & Electric Corp., Rochester, N. Y.
Chairman Gas Section—J. E. Cooper, Utica Gas & Electric Co., Utica, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., Lake Placid Club, Lake Placid, N. Y., Oct. 4 and 5, 1926.

Illinois Gas Association
Date of Affiliation—Mar. 19, 1919.
Pres.—W. A. Bertke, Illinois Power & Light Corp., East St. Louis, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., 1927.

Indiana Gas Association
Date of Affiliation—April 24, 1919.
Pres.—E. Van Arsdel, Interstate Public Service Co., Indianapolis, Ind.
Sec.-Tr.—E. J. Burke, Room 1314, Peoples Gas Bldg., Chicago, Ill.
Conv., 1927.

Michigan Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—C. R. Henderson, Washtenaw Gas Co., Ann Arbor, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., 1927.

Mid West Association
Date of Affiliation—May 21, 1919.
Pres.—Frank S. Edge, Peoples Light & Fuel Co., Grinnell, Iowa.
Sec.-Tr.—H. R. Sterrett, 551 Seventh St., Des Moines, Ia.
Conv., St. Paul, Minn., April, 1927.

Missouri Association of Public Utilities
Date of Affiliation—June 18, 1920.
Pres.—F. S. Dewey, Kansas City Power and Light Co., Kansas City, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1927.

New England Gas Association
Pres.—F. C. Freeman, Providence Gas Co., Providence, R. I.
Pres. Operating Div.—G. Warren Stiles, Portland Gas Light Co., Portland, Me.
Sec.-Treas. Operating Div.—F. E. Drake, Lynn Gas & Electric Co., Lynn, Mass.
Pres. Sales Div.—M. B. Webber, Marlboro-Hudson Gas Co., Boston, Mass.
Sec.-Treas. Sales Div.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Pres. Industrial Div.— R. J. Phelan, Worcester Gas Light Co., Worcester, Mass.
Sec.-Treas. Industrial Div.—J. J. Winn, Jr., Fall River Gas Works Co., Fall River, Mass.
Conv., 1927.

New Jersey Gas Association
Date of Affiliation—April 25, 1919.
Pres.—L. N. Yetter, Atlantic City Gas Co., Atlantic City, N. J.
Sec.-Tr.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 13, 1927.

Oklahoma Utilities Association
Date of Affiliation—September 16, 1925.
Pres.—J. A. Frates, Oklahoma Union Railway Co., Tulsa, Okla.
Mgr.—E. T. McKay, Oklahoma City, Okla.
Conv., 1927.

Pacific Coast Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—F. J. Schafer, Southern California Gas Co., Los Angeles, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Pasadena, Calif., Aug. 23 to 27, 1926.

Pennsylvania Gas Association
Date of Affiliation—April 10, 1919.
Pres.—Allyn C. Taylor, Consumers Gas Co., Reading, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 13, 1927.

Southern Gas Association
Date of Affiliation—May 20, 1919.
Pres.—A. E. Merchant, New Orleans Public Service, Inc., New Orleans, La.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., Atlanta, Ga., April 19, 20, 21, 1927.

Southwestern Public Service Association
Date of Affiliation—September 26, 1923.
Pres.—H. E. Borton, Mineral Wells Electric Co., Dallas, Texas.
Chairman Gas Section—C. K. Fletcher, Fort Worth Gas Co., Fort Worth, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., 1927.

Wisconsin Utilities Association
Date of Affiliation—March 25, 1919.
Pres.—John St. John, Madison Gas & Electric Co., Madison, Wisc.
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.
Conv., 1927.

Geographic Divisions

Eastern States Gas Conference
Date of Formation—April 11, 1923.
Pres.—S. P. Curtis, American Gas Co., Philadelphia, Pa.
Sec.-Tr.—J. C. Smith, Consumers Gas Co., Reading, Pa.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 14 and 15, 1927.

Employment Bureau

SERVICES REQUIRED

ENGINEER—Large operating company desires the services of an engineer with experience in the application of gas and the selling of industrial gas appliances. State age, past experience and salary expected. Address A. G. A.
Key No. 072.

WANTED by large gas company in middle west, salesman for industrial gas appliances. Address A. G. A.
Key No. 073.

WANTED—A fast growing Gas Syndicate operating a number of Gas Companies desires the services of an experienced gas appliance solicitor. Only trained and experienced men with good references need apply. A good opportunity for a live, wide-awake salesman. Address A. G. A.
Key No. 079.

SALESMEN—Large Public Utility Company operating in Central New York and many other states, desires to employ several securities salesmen to sell company securities. Excellent opportunity. State salary, age, experience, married or single. Address A. G. A.
Key No. 080.

SALESMEN-WATER HEATERS—Eastern Gas Company requires services of several Water Heater salesmen for campaign on Automatic Storage water heaters. Heaters will be sold on Thirty-Day Trial—no money down—one year to pay. Commissions far beyond the average will be paid. Give full particulars in first letter and how soon you will be available. Address A. G. A.
Key No. 083.

GAS ENGINEER, technically educated in fundamentals of chemistry and mechanical engineering, with some knowledge of civil and electrical engineering and familiarity with business economics, having three to ten years, preferably in design and construction of coal and water gas plants and high and low pressure distribution system. Capable of handling operating and construction problems for system of several gas properties. Permanent position. Location, New York State. In replying, please give full details of education, experience, salary desired, availability and small photograph. Address A. G. A.
Key No. 084.

INDUSTRIAL GAS SALES REPRESENTATIVE: Gas company in a Middle Atlantic State has an opening for a technical college graduate, with fundamental knowledge of application and combustion of various fuels, to sell gas for industrial uses. Must be capable of making plant surveys of heat applications. State age, education, experience and salary desired. Address A. G. A.
Key No. 085.

SALESMEN: Medium-sized Public Utility Operating Company located near New York City has opening for one gas appliance salesman, and two securities salesmen to sell gas company securities direct to consumers. State salary, age, experience, and married or single. Address A. G. A.
Key No. 086.

A COMPANY operating a number of gas and electric properties in the East desires to secure the services of several ladies for their Home Service Department. Applicants should have had experience in the gas and electric departments of a Public Utility in the following lines of work, gas and electric cooking, minor maintenance and adjustments of gas and electric appliances as well as being able to meet the public. The position will require some traveling and will pay a good salary with expenses, and offers an opportunity for advancement in a prominent and progressive organization. State age, experience, salary expected and enclose photo in first letter. Address A. G. A.
Key No. 087.

INDUSTRIAL GAS SALESMAN—Must have sufficient engineering experience and ability to make estimates, recommendations and demonstrations: and also must have that quality of salesmanship which can bring about the signing of contracts. Company operates in a city of approximately 200,000 inhabitants. Address A. G. A.
Key No. 088.

A NEW GAS APPLIANCE COMPANY desires to employ Gas Appliance Salesman who has had considerable experience in selling Water Heaters, boilers, etc. State age, salary expected, experience. Address A. G. A.
Key No. 089.

INDUSTRIAL GAS SALESMAN with two or more years' experience with various industrial applications to join Gas Company industrial sales force with good opportunity to develop into supervisory position. Address A. G. A.
Key No. 090.

ARCHITECTS' and Builders' Service Specialist.—A man with some architectural training or with good knowledge of appliance specifications and piping lay-outs to join gas company's sales organization and develop an Architects' and Builders' Service. Address A. G. A.
Key No. 092.

WANTED—Young man with some statistical experience to join Sales Promotion Department of large gas and electric company. Must be able to work into general sales plans. Position open at once. Address A. G. A.
Key No. 093.

SALESMAN—Chiefly for gas-fired steam radiators, also other gas appliances to work in New York City. One acquainted with plumbing and heating trade preferred. Salary and commission basis. Address A. G. A.
Key No. 094.

SERVICES OFFERED

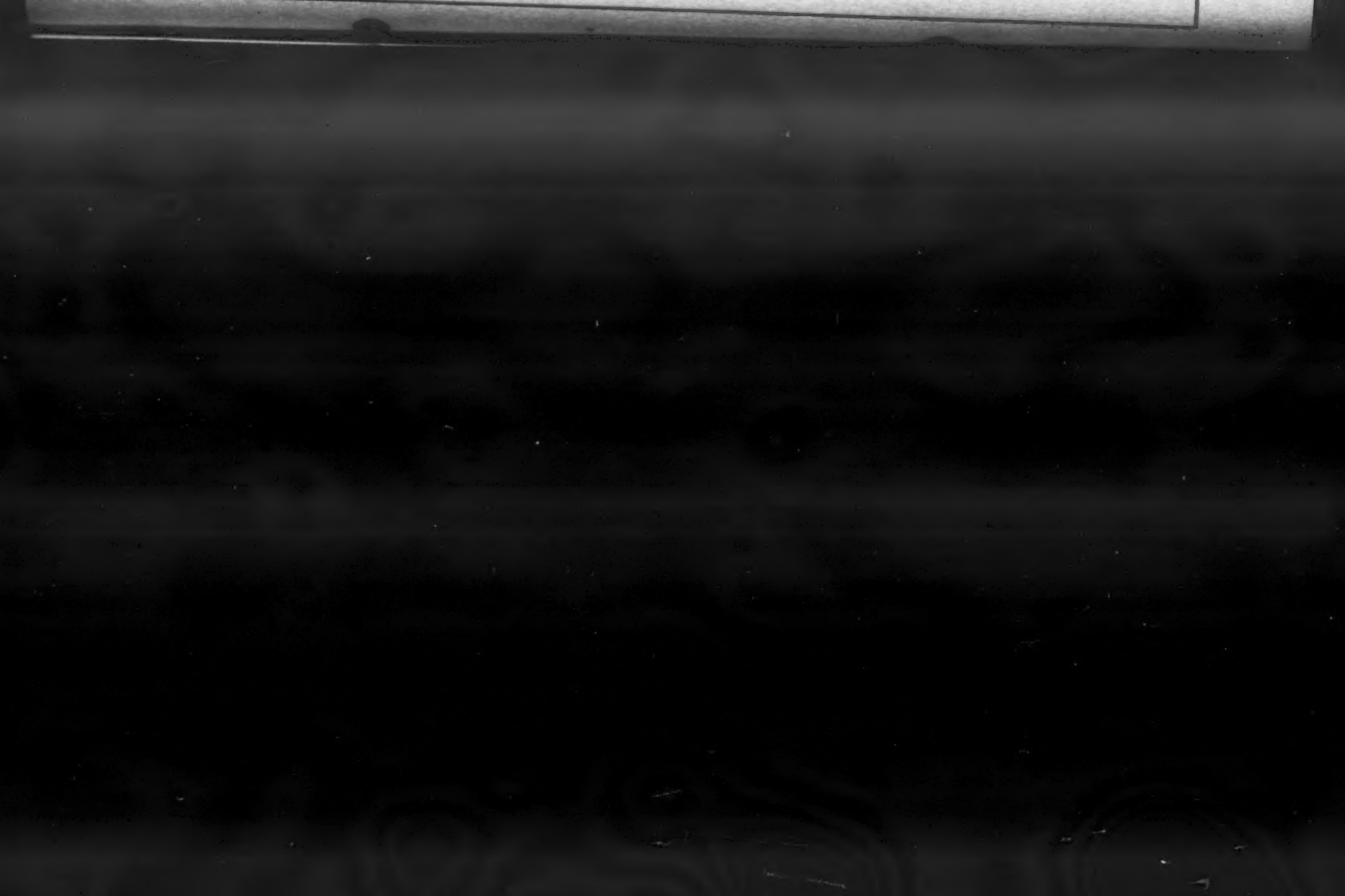
TECHNICAL MAN—(34) desires position as manager or superintendent of gas plant in city of 20,000 to 50,000 population; have had twelve years' experience in gas business of which last six have been as manager of gas properties; experience as superintendent of high and low pressure distribution; business and technical education; married; available immediately; references from present and former employers; prefer South. Address A. G. A.
Key No. 202.

WANTED—Am open for position as appliance salesman with appliance manufacturer, experience covers over fifteen years in the sale of gas ranges, automatic water heater and heating appliances, or as manager of appliance sales department with a gas operating company, experience includes executive and technical training. Married. A1 references. Address A. G. A.
Key No. 205.

AN ENGINEER experienced in the development of large volume commercial and industrial gas business is open for position as Utility Manager or department head. Record and references on file with A. G. A. Address A. G. A.
Key No. 207.

EXECUTIVE thoroughly experienced in coke oven and water gas manufacture, distribution of gas, sale of metallurgical and domestic coke, and engineer of wide experience with ability to deal with public officials and general public. Now open for engagement. Best of references. Forty-two years old and married. Address A. G. A.
Key No. 209.

WANTED—Position as Gas Engineer or Superintendent of property serving 30,000 or more meters. Fifteen years' experience in high and low pressure distribution, coal and water gas production. Address A. G. A.
Key No. 211.



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